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Original Articles.

THE PELVIC URETERAL SHEATH.

ITS RELATION TO THE EXTENSION OF CARCINOMA CERVICIS UTERI.*

JOHN A. SAMPSON, M.D.

Resident Gynecologist, the Johns Hopkins Hospital; Instructor in Gynecology, Johns Hopkins University.

BALTIMORE.

During the last year and a half I have been studying the extension of carcinoma cervicis uteri with special reference to its bearing on the more radical operations for that disease. These studies[1] have demanded a knowledge of the anatomy and physiology of the neighboring structures, of how the disease invades these parts, and especially the effect of the more radical operations on such organs as the bladder, ureters, rectum and other pelvic structures.

In studying cross sections of the parametrium of those cases in which the lower ends of the ureters have been resected in order to obtain a wide excision of the primary growth, an opportunity was afforded not only of determining how the growth invaded the parametrium, but also its relation to the ureters. In these cases it was noticed that the ureters were inclosed in a sheath which seemed to be derived from the tissue along or through which the ureters pass, and served as a protection to the ureters from the invasion of the carcinomatous growth.

Waldeyer[2] has called attention to the fact that there is pictured in Krause's anatomy, longitudinal muscular bundles which extend from the bladder up on the ureter, but the cut is not accompanied by any description. He describes them as longitudinal muscular bundles, which are united to each other by connective tissue and separated from the ureter by a space which can be injected. This sheath has a thickness of .5 to .75 mm., and he says extends from 3 to 4 cm. up along the ureter. The lumen he considers to be a lymph space.

Disse[3] refers to Waldeyer's sheath, and says that these muscular bundles, which are greatly hypertrophied, do not come from the bladder, as they appear to do, but from the ureter, and suggests that their hypertrophied condition, as well as the space between them and the ureter, arises from the contractions of the bladder pulling on the outer ureteral coat.

If the abdominal portion of the ureter is exposed at autopsy and partially freed from its surrounding tissue and traction made on it, it can be drawn out from what is apparently a sheath, which seems to be a part of the subperitoneal connective tissue, and is continuous with that surrounding the kidney above and accompanying the ureter into the pelvis below. Cross sections of the abdominal portion of the ureter, with its surrounding tissue, show that the ureter lies in the subperitoneal adipose and fibrous tissue, and that this tissue forms a very imperfect and rather indefinite sheath about the ureter, and it usually requires some play of the imagination to make out a definite ureteral sheath from cross sections of the abdominal portion of the ureter. If the dissection is carried down into the pelvis, this apparent ureteral sheath becomes more definite, so much so that it may be split open and the ureter shelled out from it. On reaching the bladder the lower end of the ureter seems to be reinforced by muscle bundles extending from the bladder up along the ureter, and which have been referred to.

On stripping the peritoneum from the side of the pelvis it will be noticed that the portion of the ureter above the parametrium may be carried down with the peritoneal flap thus formed. This portion of the ureter will be referred to as the subperitoneal portion, while that below the entrance of the ureter into the parametrium may be called the parametrial portion of the ureter.

Cross sections of the subperitoneal portion of the ureter show that it is surrounded by a fibrous sheath which is derived from the tissue along or through which the ureter passes, and here is adherent to the peritoneum; on that account the ureter, with its sheath, may be dissected away from the walls of the pelvis with the peritoneum. This is shown in Figure 1, which represents a cross section of the ureter taken about 1.5 cm. above its entrance into the parametrium. This sheath is better developed in some cases than in others, and by cross sections one may follow it above the brim of the pelvis in one case, while in another case the sheath around the entire subperitoneal portion of the ureter may be poorly developed. Cross sections of the parametrial portion of the ureter show how the sheath accompanies the ureter

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. Sampson: The Importance of a More Radical Operation in Carcinoma Cervicis Uteri, as Suggested by Pathological Findings in the Parametrium. Johns Hopkins Hospital Bulletin, 1902, xiii, 299-307. Also: Ascending Renal Infection; with Special Reference to the Reflux of Urine from the Bladder Into the Ureters as an Etiological Factor in Its Causation and Maintenance. Johns Hopkins Hospital Bulletin, 1903, xiv, 334-352. Also: The Efficiency of the Periureteral Arterial Plexus and the Importance of Its Preservation in the More Radical Operations for Carcinoma Cervicis Uteri. Johns Hopkins Hospital Bulletin, 1904, xv, 36-46. Also: The Relation Between Carcinoma Cervicis Uteri and the Ureters, and Its Significance in the More Radical Operations for that Disease. Johns Hopkins Hospital Bulletin, 1904, xv, 73-84. Also: Complications Arising from Freeing the Ureters in the More Radical Operations for Carcinoma Cervicis Uteri, with Special Reference to Postoperative Ureteral Necrosis. Johns Hopkins Hospital Bulletin, 1904, xv, 123-134. Also: The Relation Between Carcinoma Cervicis Uteri and the Bladder, and Its Significance in the More Radical Operations for that Disease. Johns Hopkins Hospital Bulletin, 1904, xv, 156-162.

2. Waldeyer: Ureter-scheide, Verhandlungen der Anatomischen Gesellschaft, 1892, 259-260.

3. Disse: Von Bardeleben, Handbuch der Anatomie, Gustav Fischer, Jena, 1902, vol. vii, No. 1, pp. 107-109.

through the parametrium, or, to express it more correctly, how there is formed about the ureter a sheath from the tissue along or through which the ureter passes, as shown in Figure. 2.

Cross sections of the lower 1 to 2 cm. of the ureter demonstrate that this portion of the ureter is surrounded by muscle bundles which also give rise to a sheath, and which Waldeyer[2] claims extends up along the ureter for a distance of 3 to 4 cm. In the cases which I have studied the muscular sheath has not extended over 2 cm. above the bladder. Disse[3] claims that these muscles arise from the ureter and not from the bladder, as they appear to do. See Figures 3 and 4.

The pelvic portion of the ureter is surrounded by a sheath which is derived from the tissue along or through which it passes. Near the bladder this sheath is composed mostly of muscle fibers. As one examines cross sections higher up, the muscular fibers gradually disappear, and one finds that another sheath appears which fuses with the muscle fibers, encircling the upper ends of them, and is continued above as the fibrous sheath previously referred to. It is difficult to determine the origin of the muscular fibers about the lower end of the ureter. They apparently arise from the bladder, and I

Fig. 1.—Transverse section of ureter with its sheath taken 1.5 cm. above its entrance into the parametrium, ×5. The internal iliac artery was injected one hour after death, with a 15 per cent. solution of gelatin colored with ultramarine blue. The large vessels of the periureteral arterial plexus are shown contrasting with the smaller branches in the walls of the ureter. The inside of the sheath is filled with adipose and fine fibrous tissue in which are imbedded the periureteral vascular plexuses.

think that this is true for some of them; on the other hand, one can see from cross sections taken at different levels that others may arise from the outer coats of the ureter, as Disse[3] claims.

The structure of the sheath is dependent on the structure of the tissues along or through which the ureter passes. Near the bladder one finds muscular fibers predominating, while higher up the sheath is composed of fibrous tissue, with an occasional muscle bundle. The thickness of the sheath varies in different places, and in different cases, and is dependent on the tissue about it, as may be seen by referring to the illustrations. The lumen of the sheath is filled with adipose tissue and strands of fibrous tissue and contains the vascular ureteral plexus. One finds in the sections of this sheath empty spaces, which in some instances may be lymph spaces, but in nearly every instance which I have seen appeared more like artefacts. A hypodermic needle may be inserted along the ureter and colored fluid forced into the tissue about the ureter, and this will follow the course of the ureter, indicating that this sheath restricts

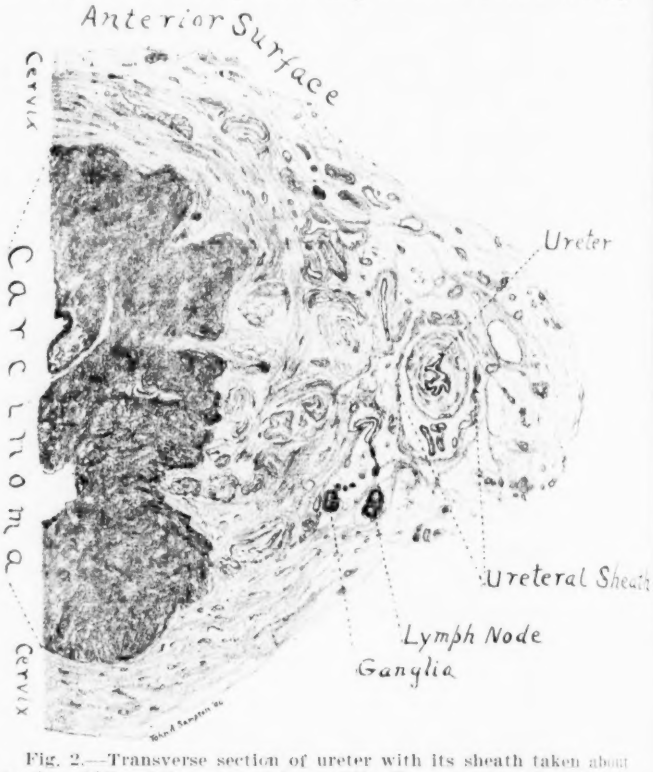

Fig. 2.—Transverse section of ureter with its sheath taken about in the middle of the parametrium, ×2¼. Transverse section of right parametrium and one-half of the cervix from a specimen of hysterectomy for carcinoma cervicis uteri in which the lower portion of both ureters was sacrificed and the renal ends of the ureters implanted into the bladder. The ureteral sheath is derived from the tissue along or through which the ureter passes, and here consists of fibrous tissue with a few fine muscle bundles at the upper end. Within its walls can be seen the larger vessels of the periureteral vascular plexuses in cross section.

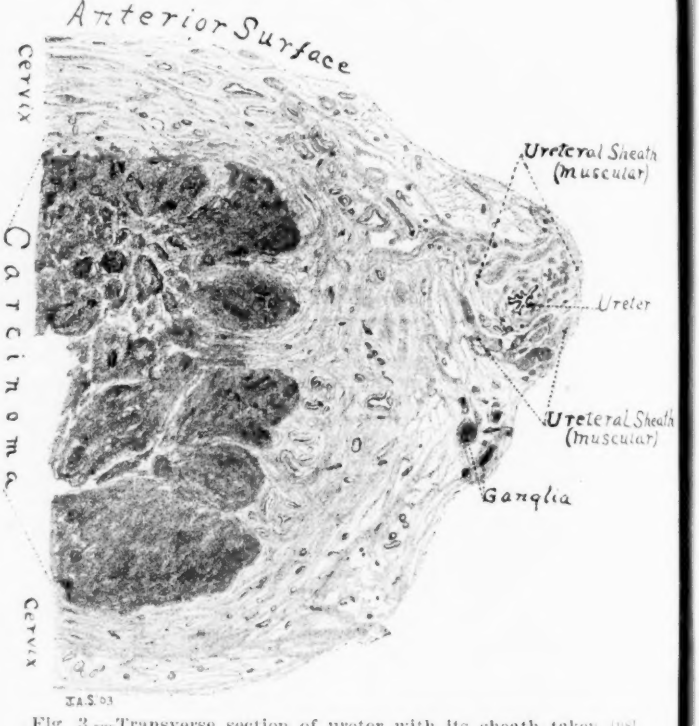

Fig. 3.—Transverse section of ureter with its sheath taken just above the bladder, ×2¼. From the same specimen from which Figure 2 was drawn. As one can see, the ureter at this level is surrounded by muscle bundles. The ureter at this level is very near the cervix, and it would take but little involvement of the parametrium, either by direct extension or metastases, for the cancer to reach or extend beyond the ureters.

its spreading into the surrounding tissues and forces it to extend along the ureter.

ORIGIN OF URETERAL SHEATH.

It would seem that the sheath was due to the activity of the ureter; the peristalsis, with its sliding motion and distension and contractions of the ureter, forms out of the surrounding tissue a channel, the walls of which

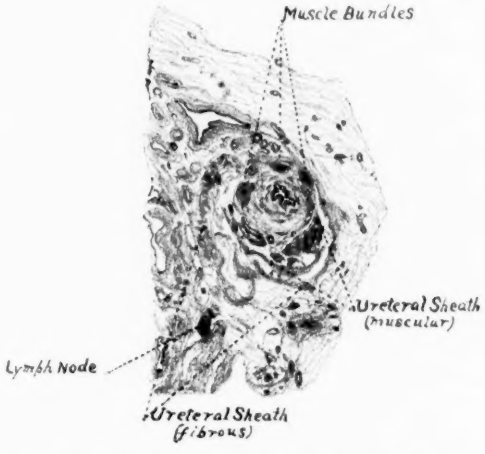

Fig. 4.—Transverse section of the ureter showing the relation between the fibrous portion of the ureteral sheath and the muscular portion. ×2¼. Transverse section of a portion of the parametrium from the same specimen from which Figures 2 and 3 were made, and about half way between the two. In the outer wall of the ureter can be seen heavy muscle bundles suggesting that the muscular sheath (Waldeyer) arises from the ureter, as Disse claims: on the other hand, other muscle bundles may be seen alongside of the ureter, which may come from the bladder (?). Outside the ureter and the remnants of the muscle bundles can be seen a fibrous sheath, which blends with the muscular sheath and gives rise to the fibrous sheath in Figure 2.

Fig. 5.—Demonstrating the effect of the invasion of the ureteral sheath by carcinoma cervicis uteri. ×2¼. Transverse section of the right parametrium and one-half of the cervix from a specimen of hysterectomy for carcinoma cervicis uteri, in which the lower portion of the right ureter was sacrificed and the renal ends of the ureter implanted in the bladder.

may be called a sheath. In support of this view it may be said:

1. The sheath, as such, is absent in the fetus.

2. In a case of double ureter, in which the ureters were close together, one sheath was common to both.

3. Its structure varies with that of the surrounding tissue.

4. The ureter, deprived of its sheath, may form another from the tissue in which it becomes imbedded. A patient was readmitted to this hospital in April of this year with a recurrence of carcinoma cervicis uteri about the left ureter. At the first operation, six months before, the ureters had been freed and the ureteral sheath removed with the uterus and growth. The recurrence, which was about the size of a hen's egg, was removed with the lower 4 cm. of the ureter, and in studying the specimen it was found that a new sheath had formed about the ureter from the tissue in which it had become imbedded.

5. The sheath is developed best in parts where there is opposition to its contractions and expansions, as in the pelvis; while in the abdomen, where the ureter lies in loose adipose and fibrous tissue, which offers very little

Fig. 6.—Demonstrating the relation between a metastasis to a minute parametrial lymph node and the ureter. ×2¼. Transverse section of left parametrium and portion of the cervix. The double ureter has but one ureteral sheath instead of two, thus suggesting that the sheath is derived from the pelvic structures along or through which the ureter passes and not from the ureter. Four lymph nodes are shown, and the one situated lateral and posterior to the double ureter is carcinomatous.

resistance to the peristalsis of the ureters, the sheath is imperfectly formed or absent.

RELATION OF THE URETERAL SHEATH TO DISEASED CONDITIONS.

One can see how the sheath would protect the ureter from inflammatory processes and new growth. On the other hand, thickening of the sheath from these diseased conditions might interfere with the function of the ureter. An interesting condition arises where a stricture occurs at the vesical end of the ureter. The ureter becomes distended and frequently very tortuous, and sometimes kinked. Normally, one finds certain constrictions in the ureter, one below the kidney and another at the brim of the pelvis, apparently due to a thickening of the surrounding tissue (sheath) at this place. Where a hydroureter occurs, these constrictions become more marked and the ureter markedly distended above and below the constrictions where the tissue about the ureter is loose and the sheath formation less perfect. When a kinking of the ureter takes place it is apparently due to

a rupture of the tissue surrounding the ureter, i. e., a hernia of the imperfect ureteral sheath with a protrusion of the ureter and consequent kinking of the ureter by the hernial ring thus formed.

RELATION BETWEEN CARCINOMA CERVICIS UTERI AND THE PELVIC URETERAL SHEATH.

One realizes that the uterus is a relatively movable organ. On the other hand, the ureters follow the pelvic wall and near the bladder they begin to approach each other, so that the distance between the ureteral orifices is from 2 to 3.5 cm., varying in different cases and with the degree of distension of the bladder. As the ureters are relatively fixed, the relation between them and the uterus is dependent on the position of the uterus in the pelvis, whether in anti- or retroposition, high in the pelvis or in the descensus, and especially in the lateral positions of the uterus, for when the cervix is in the right side of the pelvis it will be much nearer the right than the left ureter, and vice versa. At the level of the internal uterine os the ureters may be 7 to 9 cm. apart and consequently would be some distance from the sides of the uterus; on

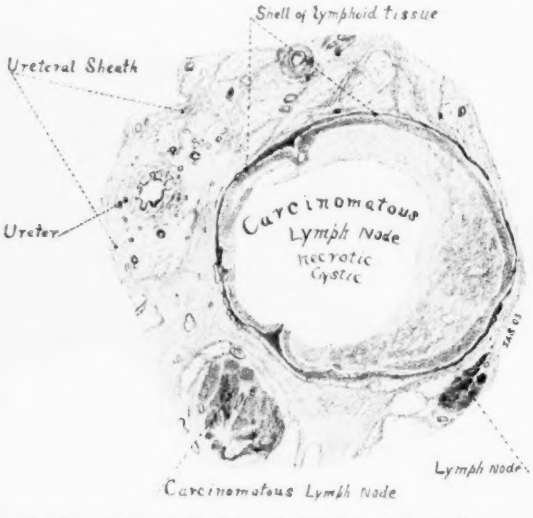

Fig. 7.—Demonstrating the relation between a large carcinomatous lymph node and the ureter, ×2¼. From the same case as the section represented in Figure 6. This carcinomatous lymph node, which had become necrotic and cystic, is situated lateral to the right ureter and is the node sometimes found near the crossing of the uterine artery and ureter.

the other hand, at the level of the external os they are much nearer together and their distance from the cervix may be less than 5 mm., depending on the size of the cervix and its position in the pelvis. It becomes evident that carcinoma cervicis uteri does not have to extend far into the parametrium either by direct extension or metastases, to reach or extend beyond the ureters.

The relation between carcinoma cervicis uteri and the ureters manifests itself clinically, in renal insufficiency resulting from a compression of the ureters by the growth and in the frequency of accidental injury to the ureters occurring during operation for the removal of the growth, there having been in this hospital 19 cases of accidental injury to the ureter in 156 hysterectomies for carcinoma of the cervix, as compared with only 11 similar injuries in 4,513 other major gynecologic operations.

A study of fifteen specimens removed by the more radical operation, i. e., where an attempt is made to remove the lymphatics from the sides of the pelvis and with them the uterus and growth and all the parametrium, either dissecting the ureters free or else resecting the lower ends of them and implanting the renal end in the bladder, has shown that in twelve cases the growth has extended beyond the uterus, thus clearly demonstrating why hysterectomy so seldom cures this condition. In seven of the twelve cases there was a direct extension of the growth from the cervix. There were metastases to the parametrial lymph nodes in four cases, and metas-

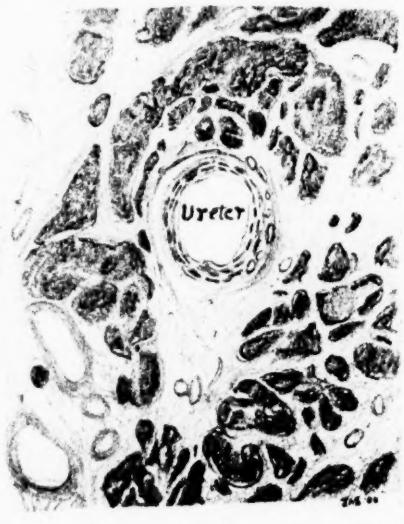

Fig. 8.—Demonstrating the invasion of the ureteral sheath by carcinoma cervicis uteri, with resulting compression of the ureter, ×4. The ureter is surrounded by the growth. The sheath, being derived from the tissue through which the ureter passes, can not be differentiated from it, and the effect of the invasion of the growth into the sheath is to compress the ureter, giving rise to hydroureter above.

Fig. 9.—Demonstrating the hydroureter caused by the invasion of the ureteral sheath by carcinoma cervicis uteri, ×4. From same specimen as the one shown in Figure 10, demonstrating the hydroureter caused by the ureteral sheath which has been invaded by the cancer.

tases have been found in the other pelvic lymph nodes in six out of twelve cases in which they have been studied.

Pathologically, the close relation between carcinoma cervicis uteri and the ureters shows itself:

1. In the distension of the cervix by the growth, thus diminishing the distance between the ureters and the cervix.

2. In the direct extension of the growth from the cer-

vix into the parametrium. As the distance between the ureter and the cervix may be less than 5 mm. in the lower portion of the parametrium, which, unfortunately, may be the part of the parametrium first involved by a direct extension of the growth, it takes but very little involvement of the parametrium to reach or extend beyond the ureters.

3. In the metastases to the parametrium, which may occur:

(*a*) In the large parametrial lymph node, occasionally found at the place where the uterine artery crosses the ureter.

(*b*) In the small parametrial lymph nodes scattered throughout the parametrium.

(*c*) In (intravascular?) lymph nodes which apparently protrude into the lymph channels like sponges and may be present in large numbers in these cases. These may be true intravascular nodes or the apparent lymph channel may be an artefact.

Fig. 10.—Demonstrating the reformation of the ureteral sheath about a ureter which had been freed in a more radical operation for carcinoma cervicis uteri. ×4. The lower 4 cm. of the left ureter was excised with a recurrence of carcinoma cervicis uteri. Primary operation six months before, when both ureters had been freed from their sheaths.

(*d*) In the other structures of the parametrium, as sheaths of nerves, ganglia, lymph spaces, etc.

Whatever the form of the invasion of the parametrium it does not have to extend far in order to reach the ureter. In Figure 5 is a drawing from a specimen in which the growth has extended out from the cervix and has involved the ureteral sheath and one can see that the latter has become hypertrophied, thus better protecting the ureter; while in Figures 8 and 9, from another case, the growth has surrounded the ureter with its sheath, compressing and invading the sheath, thus giving rise to a hydroureter above. In Figure 6 is a drawing showing a metastasis to one of the minute (intravascular?) parametrial lymph nodes, which is situated lateral to the double ureter. One finds in the parametrium of these cases minute parametrial lymph nodes which may have a diameter of not over 1 to 2 mm. The nodes have the same structure as the larger lymph nodes found throughout the body, and cancer may metastasize to them without causing any increase in their size. In some cases these nodes give the impression of having been made in a hurry; about them are apparent lymph spaces, and the picture is that of an intravascular lymph node which protrudes into the lumen of the lymph channel like a sponge. These nodes may be the same as the other minute lymph nodes above referred to and the intravascular appearance may be an artefact. The entire subject needs further study.

An invasion of the larger lymph nodes sometimes found in the parametrium is shown in Figure 7. In this instance the node was situated lateral to the ureter and one can see that the portion of the ureteral sheath next to the node is markedly thickened.

ABILITY OF THE URETERAL SHEATH TO RESIST THE INVASION OF CARCINOMA CERVICIS UTERI.

As has been stated, the ureteral sheath is derived from the tissue along or through which the ureter passes, and on this account it is no more able to resist the invasion of carcinoma cervicis uteri than the rest of the tissue

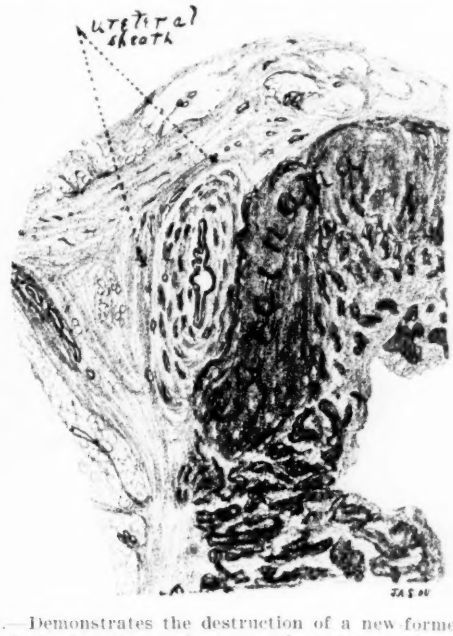

Fig. 11.—Demonstrates the destruction of a new-formed ureteral sheath and the invasion and compression of the ureter by recurrence of carcinoma cervicis uteri. ×4. Same specimen as one shown in Figure 10, but at lower level.

from which it is made, and its apparent ability to resist the invasion of cancer does not depend on any quality inherent in it, but on the nature of the growth. Growths differ greatly in their manner of invading the surrounding parts. One will find a large cancer, which in its growth tends to become encapsulated. The expansion of the growth seems to convert the surrounding tissues into a capsule, and the direct invasion of the surrounding tissue may take place, apparently, very slowly. On the other hand, in another growth there may be no evidence of expansion or encapsulation, but the growth extends in all directions into the surrounding parts, causing but a very little increase in the size of the parts involved. In Figure 5 the invasion of the ureteral sheath has apparently caused a hypertrophy of the sheath which would serve to protect the ureter, but later this very hypertrophy may compress the ureter and cause renal insufficiency. A similar condition is shown in Figure 7, in which the wall of the sheath next to the cancerous lymph node has become greatly hypertrophied, thus apparently protecting the ureter from an invasion of the growth. In Figures 8 and 9, from another case, one can see that the ureteral sheath apparently is affected by the invasion of

the cancerous growth in no way different from the rest of the surrounding tissue.

In another instance in which I had the opportunity of studying the relation between the growth and the ureter, I found that the growth had apparently broken into the ureteral sheath and had extended along the ureter within its sheath, and the latter in places was intact.

REGENERATION OF THE URETERAL SHEATH.

In November, 1903, I removed a cancerous uterus by one of the more radical operations. The pelvic lymphatics were removed with the uterus and growth and the parametrium out beyond the ureters. The latter were shelled out from the sheath, which was incised along its lateral surface. A study of the specimen showed metastases both to the parametrium and pelvic lymph nodes, while the primary growth was apparently entirely removed. The patient returned in April, 1904, complaining of some indefinite pain in the left side of the pelvis. Pelvic examination showed a lump about the size of a hen's egg apparently about the lower end of the left ureter. In April, 1904, an exploratory operation was made and this lump proved to be a return of the cancer, probably from a minute lymph node which had been overlooked and was situated laterally and below the left ureter. The mass, about the size of a hen's egg, was removed with the lower 4 cm. of the ureter and the renal end of the ureter was implanted in the bladder.

An interesting pathologic feature about the case was that a new ureteral sheath had formed from the tissue in which the barred ureter had become imbedded, as shown in Figure 10, and that this latter had become invaded by the cancerous growth, as shown in Figure 11, where one can see that the growth has destroyed the portion of the ureteral sheath next to it and has pushed the ureter against the outer wall of the sheath, and soon the left kidney would be thrown out of function.

CONCLUSIONS.

1. The pelvic portion of the ureter is surrounded by a sheath which is apparently derived from the tissue along or through which the ureter passes and owes its origin to the peristaltic movements of the ureter, thus causing intermittent pressure on its surrounding tissue. In favor of the above it may be said: (*a*) That the sheath as such is absent in the fetus; (*b*) that in a case of double ureter, in which the ureters were close together, one sheath was common to both; (*c*) that its structure varies with that of the surrounding tissue; (*d*) the ureter deprived of its sheath may form another from the tissue in which it becomes imbedded; (*e*) the sheath is developed best in parts where there is opposition to its contractions, as in the pelvis; while in the abdomen, where it lies in loose adipose and fibrous tissue which offers very little resistance to the contractions of the ureter, a definite sheath is imperfectly formed or absent.

2. Near the bladder the ureter is reinforced by muscle bundles, some of which apparently come from the bladder, as described by Waldyer, while others are apparently derived from the outer coat of the ureter, as described by Disse. These muscle bundles also form a sheath about the ureter, with which the sheath previously referred to fuses. While the two may be considered different portions of one sheath, on account of their origin and the fact that the lower end of the fibrous sheath apparently encircles the upper end of the other, they should be considered as separate structures.

3. The formation of a sheath about the abdominal portion of the ureter is very imperfect and in places apparently absent, which may possibly be explained on the ground that the surrounding tissue is loose and on this account offers little resistance to the contractions and expansions of the ureter.

4. The inside of the sheath is filled with adipose tissue and fine strands of connective tissue in which are imbedded the larger vessels of the periureteral vascular plexuses, and also possibly lymph channels.

5. While this sheath protects the ureter from the invasion of inflammatory processes and new growths, at the same time the local thickening of the sheath may interfere with the function of the ureter, thus giving rise to hydroureter and renal insufficiency and predisposing the kidney to infection, and in cases of ureteritis helps form the thickened ureter found in these cases.

6. Stricture of the lower end of the ureter demonstrates the imperfect formation of this sheath, as where the sheath is well formed expansion of the ureter is restricted, causing a stricture, while above this place the loose tissue (sheath) about the ureter may give way, permitting the tortuous condition and kinking of the ureter sometimes found in these cases, i. e., a hernia of the ureter through its sheath.

7. The ability of the ureteral sheath to resist the invasion of carcinoma depends more on the nature of the particular growth than any quality of the sheath, for the latter is derived from the surrounding tissue and behaves toward the growth as does the rest of the tissue about it. (*a*) In some cases one finds a marked hypertrophy of the sheath, thus temporarily protecting the ureter, and later this hypertrophy may compress the ureter. (*b*) In other cases the ureteral sheath may be invaded with very little or no apparent attempt at hypertrophy, while in one case studied the growth gained access to the inside of the sheath and extended along the ureter within the sheath.

8. This sheath is of importance in operations in the pelvis, for if the integrity of the sheath is preserved, that of the ureter is assured. On the other hand, freeing the ureter from the sheath, unless done with great care, is attended with dangers of ureteral necrosis. Also in ureterovesical implantations the ureteral sheath should be preserved and sutured to the bladder, thus not only protecting the ureter, but, what is also of great importance, the tension of the implantation is relieved.

EXCISION OF PART OF THE ILEUM AND ALL OF THE CECUM AND ASCENDING COLON.

ILEUM AND TRANSVERSE COLON UNITED BY A NEW METHOD.*

J. SHELTON HORSLEY, M.D.

Professor of Principles of Surgery, Medical College of Virginia; Surgeon to Memorial Hospital.

RICHMOND, VA.

The various ingenious methods used at present to unite the divided ends of the intestinal tract are prima facie evidence that no one method is satisfactory in all cases. The trend of surgical opinion seems in the direction of suture, as against mechanical appliances, and this results from the fact that an operative procedure requiring for its performance special apparatus is thereby handicapped. When the appliance is one that must be left in the intestinal canal till healing has been completed, additional disadvantages, such as gangrene and obstruction, at once suggest themselves. Undoubtedly, mechanical contrivances are sometimes indicated, but

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such instances should constitute the exception and not the rule.

In a previous paper[1] I have given results of experimental work in intestinal suturing and attempted to demonstrate the great advantages that the continuous suture penetrating all the intestinal coats has over the interrupted. They are uniform pressure, splint-like action and rapidity of application, all of which have been gone into in some detail in the paper mentioned, and will not be taken up here. As a result of this experimental work a new method of intestinal union was

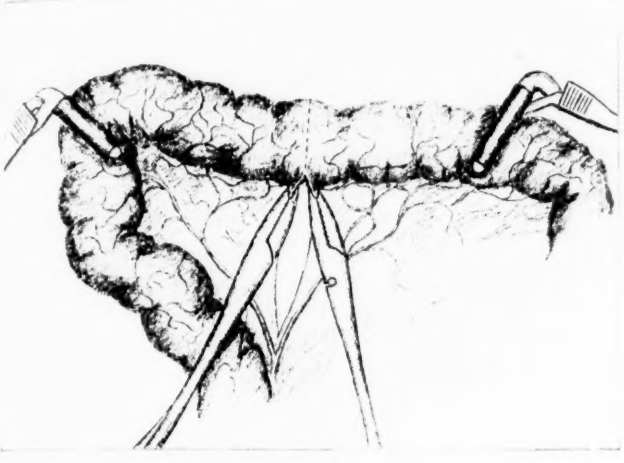

Fig. 1.

evolved, which is particularly applicable to intestines of small or unequal caliber, as it is in these cases that suturing is most difficult and stricture most disastrous. In bowels of uniform and ordinary caliber there is probably no better method of union than by the Connell continuous, or the Cushing right-angled suture, penetrating all coats.

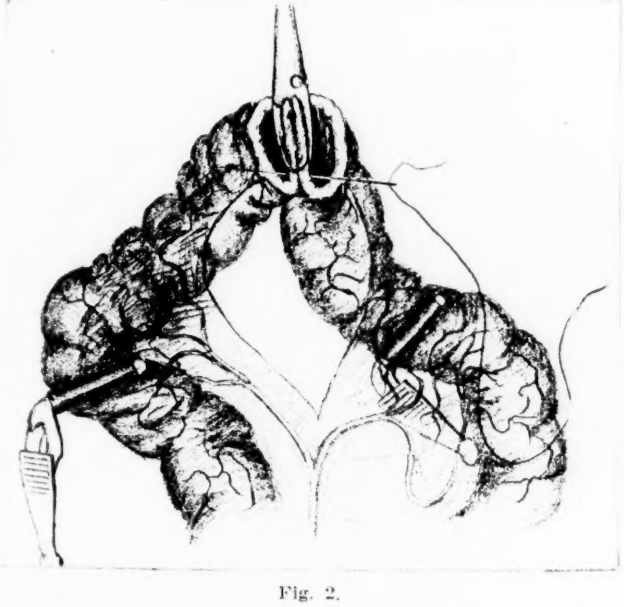

Fig. 2.

Intestines of unequal caliber frequently have to be united. Not only does this condition obtain when the ileum must be joined to the colon, but it occurs pathologically after partial or complete obstruction in intestines of normally uniform caliber. It is common knowledge that in cases of this character the bowel above the obstruction may become greatly dilated, when the surgeon is confronted with the serious problem of uniting the dilated segment to that of normal diameter. Not only are the technical difficulties great, but, as pointed out by Treves, there is much danger of stricture resulting.

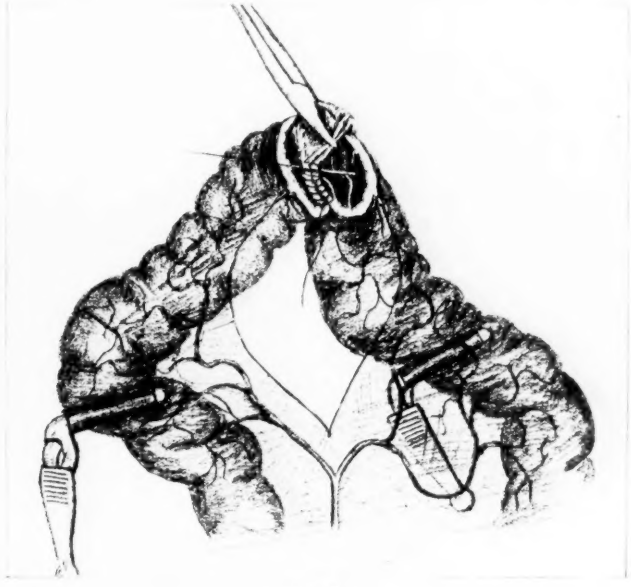

Fig. 3.

This new method seeks to simplify the technical difficulties and to obviate stricture in such cases, and in cases where the caliber, though uniform, is small. The method will be described as applied to intestines of small diameter; then the slight modification necessary when intestines of unequal caliber are to be united will be given.

The intestinal clamps are placed, or a single knot of a

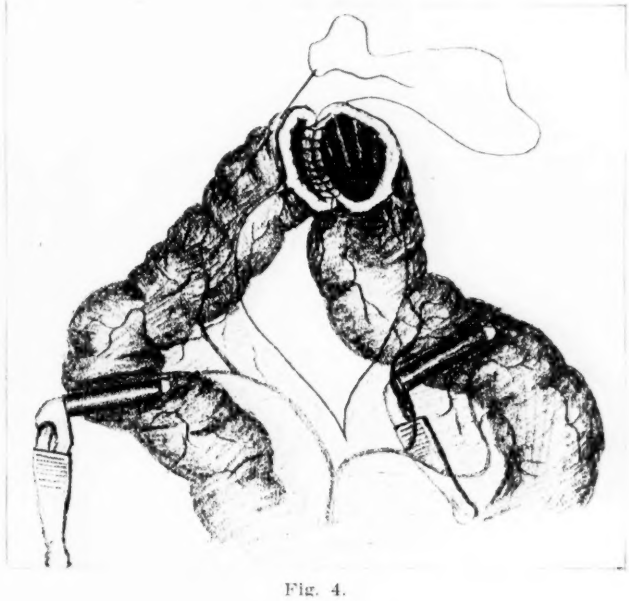

Fig. 4.

soft rubber tube used, as recommended by Ballance and Edmunds, to obtain coprostasis. The mesentery is incised; in resection, a triangular portion may be removed. The vessels at the mesenteric border of the intestine are clamped before being cut. The forceps that clamp the vessels are also made to include both layers of perito-

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neum as they separate from the mesentery to encircle the bowel. The tissue within the bite of the forceps is ligated with fine silk, so drawing the peritoneum over the area of bowel usually devoid of a serous coat, and at the same time closing the vessels. This stage is shown in Figure 1. Next, the bowel is divided or resected, as the case may be, and the convex borders placed in contact and held in this position with hemostatic forceps. An

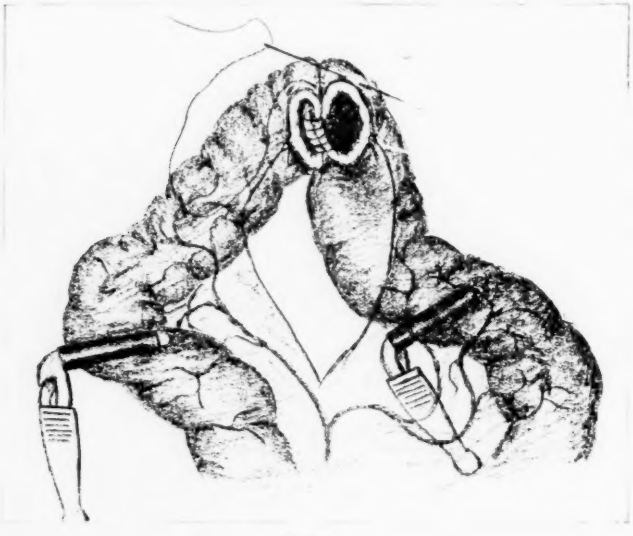


Fig. 5.

ordinary No. 8 sewing needle, threaded with No. 2 braided silk, transfixes both walls of the intestinal ends about half way between the mesenteric insertion and the forceps (Fig. 2). The suture is drawn through and tied. A portion of the intestinal walls forming a crescentic area, the center of which is grasped by the hemo-

Fig. 6.

static forceps, is now cut out with scissors, by cutting about one-third of an inch at a time and suturing the cut edges together with a continuous circular (overhand) stitch, penetrating all coats, and then cutting another one-third inch and suturing, and so on until the crescentic area is excised (Fig. 3). Or the continuous Connell suture may be used, suturing first for a few stitches and then cutting. The needle is inserted about six times to the inch, and moderately firm tension is constantly kept on the thread with the left hand. When this crescentic area has been removed, and the margins from which it was cut have been sutured in the manner described, the needle is thrust directly through the intestinal wall just to the right of its last puncture and emerges from the serosa. The character of the stitch is now changed to a Cushing right-angled continuous suture, penetrating all coats, which readily inverts the

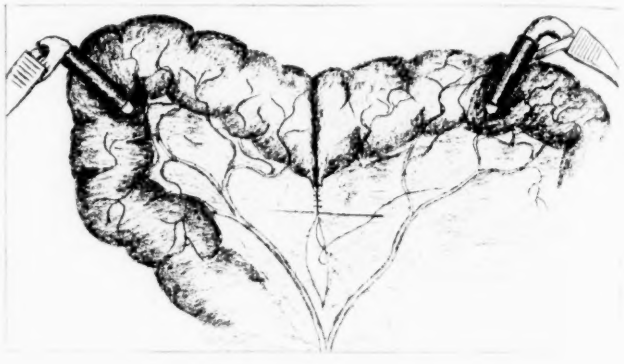


Fig. 7.

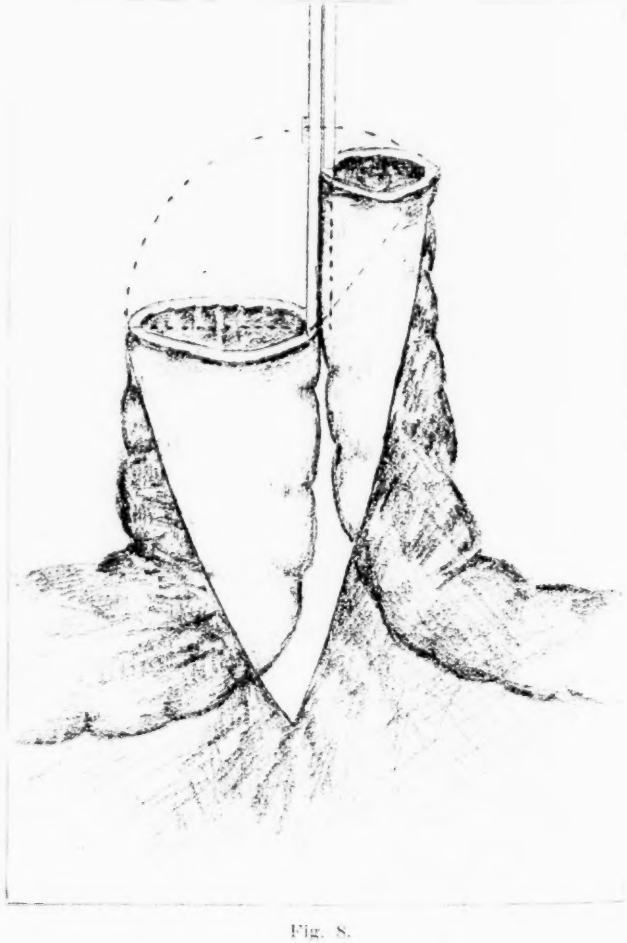


Fig. 8.

remaining margins of the wound (Fig. 4). The stitch is continued (Fig. 5) with moderately firm traction on the thread. When the first knot is reached it is invaginated, and the suture continued by two more insertions of the needle. With these last two insertions of the needle as secure a hold as possible is obtained without penetrating to the mucosa. The very last insertion is in the reverse direction of the other insertions, so that when the knot is tied it is partly buried (Fig. 6). If

desired, it may be completely buried by a single mattress stitch, though I have never thought this necessary. After this suturing is completed but little of the thread can be seen. The bowel is then turned to its natural position, and with another needle, similarly threaded, the mesentery is sewed up with a continuous stitch (Fig. 7). The needle is inserted in the mesentery at its junction with the bowel, and the first knot when tied acts as a mesenteric stitch. It is placed close to the bowel, though no attempt is made to include any portion of the intestinal wall in its grasp, as in the Mitchell-Heamner or Halsted mesenteric stitch.

When bowel of unequal caliber is to be united, the two segments are clamped by taking a deeper bite on the small bowel than on the large, so, when the mesenteric borders of both segments are lifted up, these borders will be on the same level (Fig. 8). One corner is caught with a hemostat and the suturing is begun at the other corner (Fig. 9). All of the crescentic area is cut

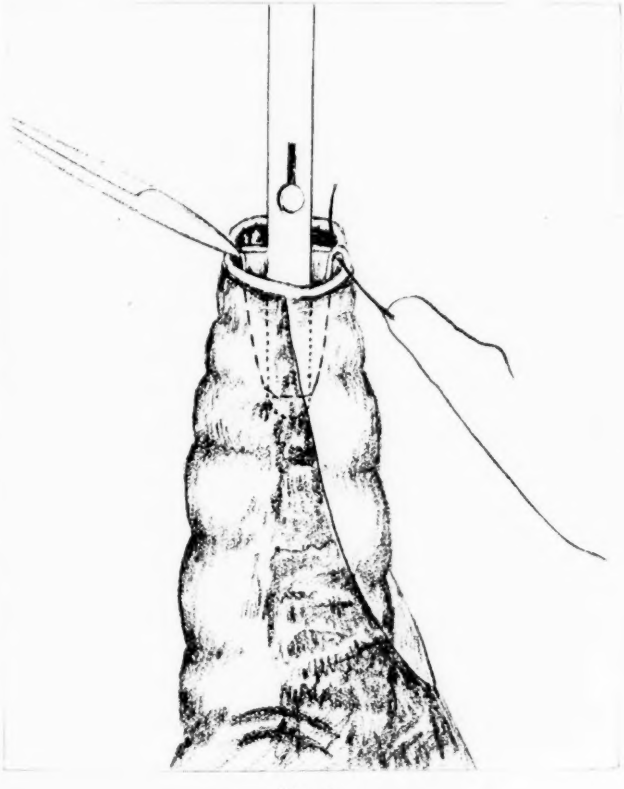


Fig. 9.

from the small gut except at the points where the hemostats are applied, as here both bowels are clamped. Otherwise the operation is finished as above described.

The following case may be interesting, not only from a surgical standpoint as involving a new method of operating, but also pathologically, for the tumor proved to be different from what it was thought to be at the time of operation:

Mr. P. L., Mexican, married; cigarmaker; aged 26; previous history negative; has one child, who is healthy. There was a history of youthful dissipation before marriage. His wife is healthy.

History.—Since 1900 he had been suffering from pains in the abdomen, located chiefly on the right side and in the iliac region. He had lost very much in weight a few months before coming under my care, in April, 1902. He was thin, and there was considerable spasm of the abdominal muscles on the right side, with the greatest tenderness, apparently, over the region of the appendix. He was operated on April 7, 1902, and the appendix removed. Macroscopically, it showed the ordinary appearances of catarrhal appendicitis. He was discharged three weeks after the operation in good condition, the wound having healed primarily. For several months he improved and complained of little or no pain. He gained materially in weight.

About October, 1902, pains again set up of similar character to those from which he originally suffered. They gradually increased. He went to different physicians, who treated him for various ailments. Continually growing worse, he finally came to me again, in May, 1903, a little more than a year from the time of operation. His condition was pitiable. He was excessively emaciated, and there were frequent paroxysms, from which he suffered intensely. There was some pain all the time, but these attacks would come on during the

Fig. 10.—Photograph of specimen two hours after removal.

day without any particular reference to what he had eaten, or to anything that he had done. Another examination showed him to be in apparently normal condition, as far as kidneys, lungs and heart were concerned. There was no evidence of any constitutional disease. It was very difficult to make out anything in the abdomen, owing to his sensitiveness to pressure there, and to spasms of the muscles over the whole abdomen, particularly on the right side; consequently, examination was practically negative. His bowels had been regular; there was some tympanites, but no marked distension. An exploratory incision was advised, and this the patient readily consented to, with the understanding that any operation found to be necessary would be done.

Operation.—June 2, 1903. A vertical incision was made through the outer edge of the right rectus muscle below the level of the umbilicus. Cecum was adherent to the peritoneum at the site of the old operation scar made when the appendix had been removed. Cecum and most of the ascending colon were infiltrated by a neoplasm and greatly thickened. The glands in the mesentery were enlarged. Nodules, the size of

buck-shot, appeared in various portions of the colon and cecum. About the middle of the colon a stricture had formed, which rendered the intestinal wall here very thick. The photograph of the specimen (Fig. 10), taken shortly after its removal, shows most of the points mentioned. The pathologic process, supposed to be carcinoma, stopped at the upper part of the ascending colon. The involved tissues were firm and elastic. In order to remove the mesenteric glands, the last ten inches of the ileum were excised, though this intestine was not diseased. The cecum and all of the ascending colon were cut away, going well into the healthy tissue of the transverse colon. The vessels were very large. They were ligated in sections. But little blood was lost.

The clamps used for coprostasis were covered with rubber tubing, and once during the operation both clamps slipped, allowing some fecal matter to escape. This was cleaned away as quickly as possible, but as the operation could not be done entirely extraperitoneally, owing to the short mesentery, infection of the peritoneum necessarily occurred. An end-to-end union of ileum and transverse colon was made with suture according to the method described above for intestines of unequal caliber.

The intestinal suture took sixteen minutes, which, with the dissection, ligating the numerous vessels, thorough toilet of the peritoneum, and suturing the abdominal wall, made the operation two hours in length. A tube surrounded by gauze, and this wrapped with rubber tissue, was used as a drain.

Fig. 11.—Syphilis of the intestine, thickened artery walls.

The patient complained bitterly of pain as soon as he recovered consciousness, though pulse and general condition were satisfactory. He passed gas from the bowel a few hours after the operation, and several large movements occurred during the first forty-eight hours. On the evening of the third day the temperature went up; drainage had practically stopped.

In spite of thorough bowel movement, with no tympanites or indication of general peritonitis, the patient rapidly failed and died on the afternoon of the third day after the operation. His clinical chart shows as follows:

June 2, before operation—Temperature, 98; pulse, 78.
June 2, after operation—Temperature, 98.4; pulse, 110.
June 3—Morning temperature, 100.2; pulse, 105.
June 3—Afternoon temperature, 101; pulse, 98.
June 4—Morning temperature, 100.2; pulse, 100.
June 4—Afternoon temperature, 102; pulse, 128.

Autopsy.—Postmortem examination was made in the presence of a relative, and with the assistance of Dr. A. H. White of El Paso. About eight ounces of seropus had accumulated at the site of the incision, but was firmly walled off from the general peritoneal cavity by omentum and intestines. There was no evidence of general peritonitis, and very slight tympanites. The omentum was plastered over a portion of the suture line at the intestinal union, the site of the union itself making part of the wall of the cavity containing the seropus. The union was in excellent condition, showing no leakage, though it was slightly distended with gas and fecal matter. A segment of the intestine including the union was removed, after separating adhesions, and thoroughly examined both by inspection and water pressure. It was perfectly sound, without any apparent weak point. The peritoneum over a portion of the removed segment was, of course, inflamed from the local infection. Death was evidently caused by the local infection, which the patient's weak condition could not overcome. Had the drainage been efficient or the patient's resistance greater, a fatal issue would probably not have occurred. There was no satisfactory explanation for the drain not working.

The photograph of the gross specimen shows some of the interesting features of the case (Fig. 10). Particular attention is called to the stricture, to various nodules, and to two or three prominences in the mesentery, which were enlarged glands.

A thorough microscopic examination of the specimen was made by Dr. Greer Baughman, assistant pathologist to Memorial Hospital, to whom I am greatly indebted for the following report:

Microscopic Examination of the Tumor.—Pieces were taken from the tumor, from the intestinal wall and from the place where the tumor began to rise from the intestine. These were hardened in the usual way, cut in collodion and stained with hematoxylin and eosin. All of the sections showed a diffuse thickening of the arterial walls (Fig. 11), and a proliferation of the endothelium lining the vessels; some of the smaller arteries seemed obliterated. The thickening of the arterial walls was not limited to the small arteries.

The tumor itself was almost entirely submucous. There was an occasional infiltration of round cells through the muscle, and in some places the superficial glands seemed to be worn away. The cells composing the tumor were round. A cheesy degeneration was noticed here and there. In several of these cheesy nodes giant cells could be distinctly made out.

The cheesy masses were made up of cell detritus, with a few nuclei. The cells composing the tumor proper were irregular-sized round cells; a few epithelioid cells were in the neighborhood of the cheesy masses.

The thickening of the arterial walls, the presence of gumma-like nodules, in which giant cells are noticed, and the submucous situation of the tumor led to the diagnosis of syphilitic gumma of the intestine.

DISCUSSION.

DR. O. C. SMITH, Hartford, Conn.—I congratulate Dr. Horsley on his ingenious method of anastomosis, and also on his temerity to report a case which did not recover, and one where the diagnosis was made at autopsy. Such cases are of vastly more interest than the simple ones which go on to a cure. He refers to having operated for appendicitis. Time was when nearly every physician and surgeon, whatever else his failings, felt that he was proficient in obstetrics, but now nearly every surgeon believes that he can, at least, operate well for appendicitis. Not infrequently the surgeon operating for appendicitis will encounter such a case as this, for here in the region of the ileocecal valve is the most frequent location of cancer in the abdominal cavity. We have had such cases at the Hartford Hospital where the most probable diagnosis was appendicitis and found instead carcinoma, and when a novice comes on such a case he may be at a loss to know what to do. If he is timid or conservative he will content himself with performing colostomy above the obstructing growth. If he is courageous he may attempt excision and entero-enterostomy, but by the time he has separated the ileopsoas fascia and dealt with the mesentery he is likely to be used up, but he still lives to undertake the removal of the diseased portion of the intestine and perform the anastomosis. He would have choice of several methods for the latter procedure, and he might not know which to select. Had he better close the ends of both

intestines and do a side-to-side anastomosis: or should he close the end of the colon and implant the end of the ileum into its side, thereby imitating the natural junction of the ileum and cecum: or should he bevel the end of the small intestine to make its circumference like that of the colon and do an end-to-end anastomosis? If he decided to use a mechanical device for the anastomosis, he would have to decide between those which are removed at the time of the operation, as, for instance, the Laplace clamp, and those which are to be left in the lumen of the bowel, whether a button, a bobbin or a bone plate; and so it behooves every man who operates for appendicitis to equip himself with some definite plan for doing these more serious operations which may suddenly come to him as a surprise.

DR. A. J. OCHSNER, Chicago—No surgeon has a very large personal experience in the excision of the cecum, ascending colon and ileum, and for this reason the subject has never been thoroughly discussed before this Section. It is one which should be discussed, because the success of the operation depends on the recognition of several simple principles. It depends on this: We must plan the operation so that the steps may be carried out with facility in order to reduce the amount of unnecessary manipulation. The danger in every operation that has not been frequently performed is that we manipulate too much. We find that in every form of surgery, when the early mortality is exceedingly large, it is not because the operation is especially difficult or dangerous, but because we do not know how to go about it. We kill the patients by unnecessary manipulation. As to the manner in which this operation should be performed, I would say that a clamp should be placed on the ileum and the transverse colon at points beyond the diseased portion, and it should be remembered that we are in danger of wounding the buried portion of the duodenum. If the two points of section of the ileum and colon are successfully grasped and the tissues behind the portion of the intestine to be removed are carefully secured with hemostatic forceps to prevent hemorrhage, it is necessary only to avoid the ureter on the one side and the duodenum on the other. As to the difference in the size of the two ends of the intestines to be united, the question of adjusting the size of large and small intestines should have been dropped many years ago. Surgeons of experience will not meddle with this because it is absolutely unnecessary. The two ends of the intestines are simply closed and a lateral anastomosis is made with sutures or an end-to-side anastomosis is made by inserting a Murphy button. The same principles that we employ in intestinal surgery always come into play here. We must have good nutrition in the intestine, there must be no tension or angulation and we must always see that serous surface is opposite serous surface. By making use of these simple principles the operation may be performed within thirty minutes, and it is accompanied with as little danger as most of the operations on the intestine.

DR. F. GREGORY CONNELL, Leadville, Colo.—Perhaps the most important element in enterorrhaphy is the security, the elimination of the danger of the yielding of the stitch. The peritoneum and the muscularis do not guarantee this security, while the submucosa does. Hence the necessity of including the submucosa in the bite of the stitch. Until comparatively recently it has been taught that it was possible to penetrate and not perforate this layer of the intestinal wall. A short time ago this presentation of Dr. Horsley's would not have been seriously considered and would have been looked on as dangerous. We now know it is practically impossible to secure a proper hold in the submucosa without passing the suture through that layer. The point as to the capillarity and infection would seem to be more or less theoretical, but it certainly would seem reasonable to suppose that this danger would be decreased by placing the knot within the lumen.

DR. HORSLEY—I feel that some explanation should be made for taking about two hours to complete the operation. There were adhesions to the abdominal wall, the mesentery was short and thick and the vessels were large and tortuous. The intestinal clamps slipped, which caused delay by additional cleansing of the field. After removal of the cecum and colon, some involved mesenteric glands were found which necessitated resection of a portion of the ileum. The time consumed in uniting the ileum and colon was sixteen minutes. The specimen presented shows satisfactory union. Dr. Ochsner has called attention to the important surgical axiom that during an operation tissues should be manipulated as little as possible. Yet he recommends that big and small gut be joined by an end-to-side or a lateral method—thus leaving two or more distinct wounds to make and to close, whereas in the method described practically the whole process is an end-to-end union accomplished by a single row of continuous sutures. This must be quicker and involve less manipulation than making an end-to-side or a lateral anastomosis and then closing the intestinal ends. I have done the operation on the dog in eight minutes, with recovery.

GALLSTONES IN THE COMMON DUCT.*

ARCHIBALD MACLAREN, M.D.
ST. PAUL, MINN.

Whether the formation of gallstones is due to chemical or to bacterial causes, it seems fairly certain that the stones are first formed in the gall bladder and are usually associated with recurring attacks of cholecystitis, usually of a subacute character. Whether the inflammation of a gall bladder stands in the relation of cause or effect, it is apparently a clinical fact that, while we may occasionally see a primary cholecystitis without stones, we do not find a secondary attack occurring after any appreciable length of time without finding stones present either in the gall bladder or in the ducts. I suppose it is possible for a patient to pass all of his stones through the common duct, and so cure himself, but my experience leads me to believe that such a result is almost impossible. In fact, the passage into the intestine of a single stone is rare, and in the only case in which I have ever been able to prove such a passage and recover the small stone, there were many similar stones in the gall bladder, and the woman also had a chronic pancreatitis, evidently due to the temporary lodgement of the stone in the ampulla and consequent damming back of the infected bile into the pancreatic duct.

After the formation of stones in the gall bladder they may, under favorable conditions, remain for long periods of time without causing any characteristic symptoms, the so-called slumbering gallstones.

When, however, the gall bladder becomes infected or reinfected, gallstones being present, the stones apparently keep up the inflammation and irritate the gall bladder into recurrent and usually ineffectual colicky attempts to rid itself of its undesirable tenants.

If the gall bladder succeeds in forcing a stone into the common duct, it is very likely to lodge there, because the middle portion of this duct is more easily dilated than its distal extremity. Mayo Robson finds that of all his gallstone cases one in five contains a stone in the common duct, while the Mayos have found one in seven at the time of the operation. My own experience leads me to believe that Robson's figure is none too high.

When a gallstone becomes lodged in the common duct there is an interference with biliary drainage, and infected bile from the gall bladder passes back into the hepatic ducts, setting up a more or less acute cholangitis. After the lodging of a gall bladder stone in the common duct, a later crop or a younger set of stones may be formed in the common or hepatic ducts be-

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. DeForest Willard, Charles A. Powers and J. E. Moore.

hind it. But the stone nearest to the intestine will be found to correspond in appearance and evident age to the gall bladder stones and not to the secondary hepatic duct concretions (Mayo).

It is of the utmost importance to entirely clear the ducts of all stones, for it is very distressing to our patients, and also to ourselves, to find that a secondary operation is necessary on account of a persistent biliary fistula, and this is the least of the evils that may follow.

In one of my early cases I removed fifteen gallstones from an inflamed gall bladder, but the patient failed to improve; she grew steadily worse, and died on the fifth day. At the postmortem examination I found several stones impacted low down in the common duct, no other cause of death being apparent.

The presence of a stone in the common duct keeps up or aggravates the subacute cholecystitis which accompanies so many of these cases. Contraction of the gall bladder wall soon takes place, which, if carried to its fullest extent, leaves the gall bladder a dense, hardened mass of cicatricial tissue, resembling a small tumor on the common duct. Very recently I removed such an obliterated gall bladder that was not one-half inch in diameter.

There are many analogies between the appendix and the gall bladder. This chronic obliterative inflammation which affects them both is one of the closest, and is another reason for cholecystectomy as against simple drainage of the gall bladder in cases when we believe that this process is well under way.

Dr. Maurice Richardson is unquestionably right when he says that cholecystectomy should be an operation of necessity, and not of choice; he is undoubtedly correct in his general propositions as to the advantages and greater safety of cholecystotomy over removal of the gall bladder; but occasionally, even in the moderately advanced cases of this class, removal of the common duct stone which is the cause of the obliterative inflammation, and draining of the infected gall bladder, will not effect a cure.

When should gallstones be removed from the gall bladder? There is still a considerable amount of uncertainty in the minds of many good men on this subject. Kerr voices the sentiment of the greatest so-called conservatism, and sends many of his patients back to the internist and to the springs. It would seem that perhaps his general mortality of 16 per cent., and his unexplainable mortality of 96 per cent. in 75 "complicated cases" out of some 800 operations, would be a strong argument against this plan of procedure. My own answer to the above question would be, that the operation should be done before the stones have reached the common duct, or before other complications have had a chance to occur.

If it were possible in any given case to predict the progress of a gall bladder stone, however innocent it might seem, then we should be justified in postponing removal, but such a prediction is impossible. Some cases give ample warning; in others, the lodging of the stone in the common duct is the first symptom of the disease or of its renewed activity.

It would seem as though the only safe advice which can be given is that gallstones, wherever they are, should be removed as soon as the diagnosis can be made with certainty. As Mr. E. Stamnon Bishop in the London *Lancet* has recently said, no temporizing would be justifiable in the presence of a urinary calculus even though it were not producing active symptoms.

If Mr. Robson finds that in the cases calling for operation one case in every five has stones in the common duct, and if, as all agree, the mortality of the operation for removal of common duct stones is from 4 to 5 or more per cent. greater than for ordinary opening and drainage of the gall bladder, ought we not to operate or remove the stones before they have started to migrate?

COMPLICATIONS.

What are the complications produced by a stone in the common duct?

1. *Jaundice.*—Jaundice is seldom caused by stones confined to the gall bladder. An attack of jaundice with colic is very suggestive of the passage of either thick, ropy mucus or of a stone into or through the common duct. Jaundice is not necessarily produced by common duct stones; a single stone seems to cause jaundice more certainly than a larger number. I have seen several stones packed into the duct when there had never been any jaundice at all, and this is not an uncommon occurrence. Kerr says that he finds jaundice absent in 33 per cent. of the cases where stones are lodged in the common and hepatic ducts. As a result of chronic jaundice, we have a decrease in the ordinary coagulability of the blood leading to persistent and fatal hemorrhage from even unimportant operative procedures. Chlorid of calcium probably helps to overcome this tendency, as has been suggested by Mr. Robson.

2. *Cholangitis.*—This may be either acute, going on to hepatic abscess, or in a subacute form, frequently with chills, fever, sweating, so intermittent in character as to strongly suggest the diagnosis of malaria, as was recently emphasized by Brewer.

In this connection it should not be forgotten that syphilitic cholangitis occasionally gives this same train of symptoms, probably due to the inflammation of or to the formation of a small gumma in the common duct. Dr. J. B. Murphy recently reported such a case to me in a personal communication, and I have seen one such case myself; both of these cases were temporarily cured by a course of antisyphilitic treatment.

3. *Peritonitis.*—This, from the ulceration through the duct of a large stone, is a not uncommon occurrence. Some of these escape through the intestine; others form local abscesses, if the inflammation does not become general.

4. *Inflammations of the Pancreas.*—These are undoubtedly associated with impacted or passing choledochous stones. The duct of Wirsung occasionally discharges into the duodenum through a separate opening, but usually it unites with the common duct to reach the intestine through the ampulla of Vater. In this latter case a small stone may obstruct the secretions from both the liver and the pancreas. Infected bile may in this way set up an inflammation of the pancreatic ducts, or the interference with the flow may allow the entrance of intestinal bacteria.

The fact that pancreatic infections are rare as compared with biliary inflammations has always seemed to me to be an argument against direct intestinal infection as opposed to blood or other channels of contamination. For, if the bacteria usually came up from the intestine, the shorter and more direct duct of Wirsung would be the course which they ought to follow.

5. *Cancer.*—This is probably a late or an indirect result of the irritation following the prolonged presence of a common duct stone.

It has been my misfortune to overlook stones in the common duct on several occasions, some of which I have

been able to remove at a later date. Others have recovered with a persistent biliary fistula, probably due to choledochous stones. In some other cases I have removed common duct stones in patients who had been previously operated on by other surgeons.

The question naturally arises, how can we best prevent the leaving of stones in the common duct? By placing a sand bag under the small of the back, and by making an ample incision, say five inches in length, and raising and rotating the liver so as to expose the common duct, according to Robson. The small, short incision, while giving room enough to deal with the gall bladder, is not sufficient for thorough exploration of the common and hepatic ducts. One should make it a rule to thoroughly explore the common duct by passing a finger through the foramen of Winslow in all gallstone cases before the gall bladder is opened, and this should be done even in cystic gall bladder cases due to an impacted stone in the cystic duct, for even in this class of cases other stones may at times be found in the common duct.

If the common duct is dilated, and especially if the gall bladder is small and contracted, there is probably either an impacted ball valve or a floating stone in the common duct, and under these conditions it is justifiable to open and explore the duct with spoon probe or the finger, as advised by Mayo, who also says that the finger is the only certain instrument of exploration.

I have seen several ducts which contained stones into which I was not able to pass the finger without using undue force, but when it is possible the finger should be passed into the duct, as a small stone, especially if it be lodged near the ampulla, can at times only be discovered in this manner.

After removing a stone from the common duct, how shall we treat the opening? Usually by draining the duct. We hear of late a great deal about drainage of the hepatic duct. I can not see that the passage of a tube up into the duct can have any advantage over simply stitching the end of a rubber drain into the opening. A continuous or purse-string catgut suture which catches the tube on either side will close the opening in the duct and prevent the bile from passing into the peritoneal cavity. If the gall bladder or stump of the cystic duct, after cholecystectomy, is treated in the same manner, just as thorough drainage will result as if the tube were passed deep into the common or hepatic duct.

The common duct tube can be removed as soon as the catgut softens, while the gall bladder tube can remain until the bile becomes sterile.

I have operated on fifteen gallstone cases during the past seven months, in five of which I found stones in the common duct, at the time of the operation, and one other vomited up a gallstone after having an attack of colic the day after the drainage fistula closed. Fourteen of these cases recovered, and one died. The death occurred in a young woman of 27, who had been sick one year, had suffered for three months with constant fever, chills and chronic jaundice. At the time of operation the gall bladder was found thickened, inflamed and adherent, containing four gallstones, while there were eight in the common duct. Infected bile flowed very freely from the time of the operation until her death.

She died on the fifth day with symptoms of septic meningitis and cholangitis, her liver reaching to the crest of the ilium. At the partial postmortem no peritonitis was found.

DISCUSSION

ON PAPERS BY DRS. RICHARDSON* AND MACLAREN.

DR. JOSEPH D. BRYANT, New York City—I believe in free drainage of the hepatic ducts, and regard gallstones as agents of trouble that ought not to be lightly considered. As an earnest of the latter fact, we have only to note the outcome of the case of an apparently innocuous gallstone affliction just cited by Dr. Richardson. Probably the handling of the gall bladder with its burden of gallstones precipitated the attack that followed so soon after the manipulation of the organ. If this be true, then, indeed, is emphasized the importance in such cases of all bodily movements, especially those of a lifting, straining or jarring nature that might easily disturb the relations of the gall bladder and its contents, arousing to renewed activity the infecting agents that some time since gained a substantial foothold there. In other words, it seems to me that in the presence of gallstones in the gall bladder one has but to recall the fact that irritation produced by their manipulation or movement may beget prompt and perhaps continuous trouble. So far as my experience goes, drainage seems to be an important proposition. We must remember that the bile ducts are of a limited diameter and more or less firmly related to the contiguous liver tissue. They possess the characteristics of mucous membrane, and are subject to the same inflammatory processes. Undoubtedly infection forms very largely the basis of all inflammatory troubles at this situation. Infection gains entrance chiefly by way of the duodenum and the gall bladder. The mucous membrane of the ducts, in such instance, as it seems to me, becomes increased in thickness, obliterating the lumen of the ducts completely in some cases, and in circumscribed portions of the ducts in other instances, causing thereby interference with the discharge of the bile into the larger ducts and, no doubt, circumscribed collections in the smaller. Since the flow of bile from the liver is accomplished under a low degree of pressure, it becomes very easy to understand how its free discharge should be encouraged by drainage under these circumstances. Early and prompt drainage in connection with operations should be practiced in proper cases. If one but stops for a moment to make comparison between infected liver structure and infected portions of other parts of the body, making the same application of the principles of drainage in both, it seems to me that the illustration of the need in gall ducts is complete. As to the points of drainage: We have two distinct points of entrance of infection, one by way of the gall bladder and the other through the common duct. Therefore, these points—the common portals of entrance—should be the ones through which it seems best that drainage should be established in proper cases. That the gall bladder should be utilized for the purpose of drainage seems to me to be a perfectly clear proposition, especially since we know that the gall bladder and the cystic duct are common channels of infection, and, therefore, should become at once the direct channels for the discharge of the infecting agents. To remove the gall bladder, leaving an infected cystic duct, would perpetuate the continuance of infection. I regard drainage of the gall bladder in suitable cases in the manner recommended by Dr. Richardson as the proper course to be pursued, and I regard drainage of the common duct for similar reasons as being a meritorious proposition. It is hardly enough to drain the gall bladder only for the relief of infection associated with the common duct.

DR. C. O. THIENHAUS, Milwaukee—I shall confine my remarks to one question, which nowadays seems to occupy the most prominent place in scientific discussions of gallstone surgery. That is the methods of different operative procedures in vogue for stones impacted in the common duct. When we consider the anatomy of the common duct and its anatomic relationship with the duodenum, we can differentiate three distinct localities in which stones in the common duct are found, and are liable to get impacted, and according to which different methods of operative procedures must be used.

*The paper of Dr. Richardson appeared in THE JOURNAL, September 3.

Stones in the common duct may be found, first, in that portion which lies above the duodenum, the so-called supraduodenal portion of the common duct; second, stones may lie in that portion of the common duct which is situated within the wall of the duodenum and near the papilla, the so-called papillary portion of the common duct; third, stones may be impacted in that portion of the common duct which lies behind the duodenum, the so-called retroduodenal portion of the common duct. In the first class, stones in the supraduodenal portion, when there exists no possibility (and such a possibility is extremely rare) to press them back through the cystic duct into the gall bladder, supraduodenal choledochotomy with drainage of the common duct, or, better, the hepatic duct is the method par excellence. For the second class, impaction at or near the papilla, the transduodenal route as first described by McBurney, 1891 (lithotomia transduodenalis), is the best method, when attempts to dislodge the stone into the duodenum by manipulation have proven futile. This method must be followed by drainage of the gall bladder or the supraduodenal portion of the common duct. For the third class, stones impacted in the retroduodenal portion, when they can not be dislodged upward into the supraduodenal portion, retroduodenal choledochotomy or transduodenal choledochotomy come into question and are rival operations. Retroduodenal choledochotomy was first advised by Lane, 1894 (Clin. Society Trans., p. 149). An incision is made 3 or 4 cm. long parallel to the duodenum descendens through the peritoneum on the outer side of the duodenum (in the same manner as advised by Kocher in cases of gastroduodenostomy). After blunt dissection the duodenum can easily be detached and turned over to the left side, and there by the retroduodenal region of the common duct together with the pancreas, be freely exposed. Then the pancreas is dissected (either by blunt dissection, the thermocautery or the knife), the choledochus opened and the stone extracted.

Against this excellent method, used by Czerny, Kehr, Kocher, DeQuervain and others with good results, I have but one objection, and that is, that it can only be employed when there are no dense adhesions to be dealt with, and such cases are comparatively rare. When we find, as is usually the case (when stones are impacted in the retroduodenal space for a longer period of time), the duodenum, pancreas and common duct matted together in one mass and surrounded by dense adhesions, retroduodenal choledochotomy is inadvisable and transduodenal choledochotomy followed by choledochoduodenostomia interna has to be preferred. It is performed in the following manner: Opening of the duodenum: incision through the posterior wall of the duodenum to the impacted stone or near the papilla; extraction of the impacted stone and of other stones higher up in the common duct by milking the choledochus from above downward, the index finger of the left hand being introduced into the foramen of Winslow and the thumb lying above the duct. When the common duct is freed from stones it is sutured to the posterior wall of the duodenum, thereby producing a new anastomosis between the common duct and the duodenum. Then the duodenum is closed and either the gall bladder drained or the common duct from a supraduodenal incision. This latter method I used two years ago in a case which I have cited in the Annals of Surgery, 1902, where the woman was jaundiced for over one year and had lost 100 pounds in weight. She is perfectly well to-day and has gained over seventy pounds since the operation. I am not in favor, in cases of impaction of gallstones in the retroduodenal part or the papillary portion of the common duct, of performing a supraduodenal choledochotomy and introducing scoops and other instruments in the dark to dislodge the stone upward. Such attempts have been often followed by severe lacerations of the duodenum and the pancreas and subsequent infection or death from starvation (duodenal fistula). Some have objected against transduodenal choledochotomy that it may be followed by infection from the inside of the duodenum. In my opinion, the opening of the duodenum is not more dangerous than the opening of the bowel in any other part of the gastrointestinal tract, and statistics have shown that transduodenal choledochotomy is not more dangerous than supraduodenal choledochotomy.

DR. J. E. MOORE, Minneapolis—In my experience in gall-bladder surgery, I have been impressed with the importance of saving that organ when possible to carry out the very suggestions made by the writer to-day. I learned very much from a very recent experience. It emphasized the importance of early operation, of thorough drainage, and that it is wise not to give up the patient as long as he is alive. The patient was a little girl, 13 years old, who had been jaundiced since she was eighteen months old. She had repeated bellyache all this time and had been under the care of a general practitioner. The diagnosis recently made was stone in the common duct and there was a clear history of gallstone colic. The child's age interfered with early diagnosis, but an operation was performed and stones were found in the gall bladder and common duct. I depended on drainage and made what I supposed was sufficient drainage, but it proved to be not sufficient. I introduced a cigarette drain with a good sized roll of gauze surrounded by rubber tissue, and all went well for three days. The patient was jaundiced after the operation and on the fourth day I was informed that she had a convulsion. The temperature was 103, the pulse 130, and I went to see her immediately. I decided it was not a case of peritonitis, but that she was suffering from cholemia. I thought I could stop the convulsions, although when I got her on the table she was semi-comatose. I used chloroform, removed the drainage from the abdominal cavity and took a blunt instrument and made pressure on the loin. Over this I made an incision and found a pint of bile. I irrigated the abdominal cavity with several gallons of normal salt solution, established drainage from the loin, and she is now convalescing.

DR. ERNEST LAPLACE, Philadelphia—Dr. Richardson is right in saying that a gallstone should be removed as soon as diagnosed. Drainage of the ducts is also essential. When a rubber tube is used, the surrounding parts should be packed with gauze so as to drain whatever leakage that might take place. I insist on an abdominal incision long enough to allow easy access to the entire field of operation. I have known gallstones to have been accompanied by local malignant disease to which they possibly were the predisposing cause.

DR. WILLIAM J. MAYO, Rochester, Minn.—I agree with Dr. Richardson most fully that early operation in these cases stands in exactly the same position as does the early operation for appendicitis. When the operation for appendicitis was done only when the patient was in a most serious condition the mortality was high, and our responsibilities to the public were largely increased. It used to be said that if surgeons could not give better results they had better leave the cases to Nature, but to-day the practitioner himself must bear a part of that responsibility. If he does not send his case to the surgeon soon enough, he must bear part of the responsibility for the result, and this will be equally true in connection with gallstones. There is one particular point that Dr. Richardson has brought out, and that is the necessity for bile drainage in probably about 40 per cent. of the cases. I can not quite agree that the operation of cholecystectomy is an obsolete one. We find ourselves performing this operation more frequently, but it should be for certain reasons. If one has a cystic gall bladder where the stone is obstructing and the gall bladder is free from bile, it can be removed, the cystic duct can be ligated and I have seen no harm follow because Nature has already thrown a ligature in the shape of an obstructing stone. Some mild cases of cholecystitis with or without gallstones that have given trouble at various times, but are at the time of operation in a quiescent stage, may be removed, and so far as our experience goes, no harm results—but rather good. All of these cases, however, should be drained, for occasionally there will be bile pressure and leakage. A light catgut ligature protected by a drain is satisfactory. If the cystic duct is obstructed by a stone or stricture, leaving a thick-walled functionless gall bladder which may really be followed by cancer, I believe these gall bladders are better out. You may say that you can take the stones out of the gall

drainage. I have never seen sepsis result from so doing. As to the common duct stones, I think these calculi should be removed and at a primary operation, as this is the safest time. You may say that you can take the stones out of the gall bladder and drain, and later remove those in the common duct, but the second operation is more dangerous than it would have been at the primary. It is wiser to remove all the stones at one primary operation. As to the McBurney operation of duodenocholedochotomy, it is a good operation in a certain class of well-selected cases, but it is better to make this operation in conjunction with the operation on the common duct. If you open the duodenum and take away the stone there, it may not be the largest stone present, and others may still remain in the duct; therefore, the common duct should at the same time be opened, explored and drained. Remove all the stones if you can and you should nearly always be able to do so. In rare cases it may be wiser to do a two-time operation, and occasionally a stone will be overlooked with the most experienced.

DR. J. C. BLOODGOOD, Baltimore—I hope, in the future, that if I am asked to discuss a paper, that the chairman will be good enough to allow me to speak before Dr. Mayo, because when one speaks after him on the subject of gallstones there is but little left to say but "ditto." Our experience in gallstone surgery has brought out conclusions very similar to those just expressed by Dr. Mayo. The two papers under discussion impress us that there is a change in feeling toward the operation of cholecystectomy. After this operation was introduced by Finney some years ago, many surgeons throughout the country were influenced to perform cholecystectomy rather than cholecystostomy in the larger proportion of cases irrespective of the condition of the gall bladder. Dr. Richardson in his paper did not discuss this point, probably because in a very recent article he has given his view in regard to the indications for cholecystectomy. In this paper Dr. Richardson limits the indications for cholecystectomy. The surgery of gallstones may be divided into three groups: First, those cases in which cholecystostomy and drainage of the gall bladder are sufficient; second, those in which removal of the gall bladder (cholecystectomy) is indicated; in this group, in some instances, the cystic duct may be ligated; in others it should be left open and drained. In the third group either a simple or complicated operation on the common bile duct is demanded. As a rule cholecystectomy should not be performed, especially in the complicated cases. Cholecystostomy is frequently indicated. I prefer, after duct operations, drainage through the gall bladder rather than through the common duct. The experience in Dr. Halsted's clinic is most favorable to the immediate suture of the duct. I have recently received communications from all cases of gallstone operated on in the Johns Hopkins Hospital surgical clinic and from a good many outside cases. These communications have impressed me with the uniformly splendid results after cholecystostomy in appropriate cases. Secondary operations have never been necessary, except in those cases in which all the stones were not removed, either because they were overlooked (all early operations), or because the condition of the patient contraindicated the necessary manipulations. The experience in gallstone surgery during recent years most emphatically indicates the earliest possible removal of gallstones and the drainage of the gall bladder in cases of inflammation without the gallstones. The chief mortality after these operations is found among those cases in which the stone is in the common duct and in which jaundice has been present many months. In every one of these instances there should have been no difficulty in making the proper diagnosis at a much earlier stage of the disease.

DR. RICHARDSON—The main subject of my paper is the drainage of the biliary passages and the indications for operation. In answer to Dr. Bloodgood, I believe certain gall bladders must be removed, whereas others are better drained. The best practice is, when possible, the preservation and drainage of the gall bladder. In those cases in which we must remove the gall bladder we are learning the immediate and the permanent effects of cholecystectomy. When I take out the gall bladder I am having trouble, but just what this trouble is I do not yet know. Whether this trouble is caused by inflammatory processes about the remains of the gall bladder and the cystic duct, by gallstones, by adhesions, or by neoplasms, time only will tell. Drainage is the chief thing to accomplish—whether we provide it through the gall bladder, the cystic, the hepatic or the common duct. I am convinced that cholecystostomy is the preferable operation whenever the gall bladder is normal or comparatively normal. Diseased gall bladders, with hypertrophied and contracted walls, and gall bladders that are friable, poorly nourished and gangrenous, I should remove.

DR. MACLAREN—I have had the same experience as Dr. Moore, due to leakage of bile about the drain, either from the gall bladder or the common duct. The method which will most frequently prevent such a leakage is a purse-string suture of catgut tied down tightly on the rubber drainage tube. This is easily applied about an opening in the fundus of the bladder and it is almost as easily placed about a common duct opening. My experience with a number of these cases is that they drain freely and that there is no difficulty in keeping the patient dry while the tube is in place.

THE ANATOMY AND RADICAL CURE OF INGUINAL HERNIA.*

DANIEL N. EISENDRATH, A.B., M.D.

CHICAGO.

An accurate conception of the anatomic relations of the inguinal region in its normal condition and again when a hernia is present is essential to the surgeon. The inguinal canal as we find it during the course of an operation differs somewhat from that as we know it from our dissections.

Normally there is no inguinal canal after the testis has descended into the scrotum. Even prior to the migration of the testis from its position just below the kidney to the inguinal canal, the latter contains a pouch or diverticulum of peritoneum which is the vaginal process.

If the testis remains in the inguinal canal or even in the upper part of the scrotum (just outside the external abdominal ring) this pouch remains open and a hernia results in the majority (50 per cent.) of cases of undescended testis.

The same sort of a pouch fills the inguinal canal in the female independent of the descent of any organ of generation.

When the testis has descended into the scrotum in the normal manner there is no longer an open inguinal canal, but only a vas deferens and its vessels in the male and the round ligament in the female.

It is of more than passing anatomic interest to study the constituents of the various walls of the normal so-called inguinal canal, because many of the modern operations for the radical cure of hernia are based on the desire to restore these conditions as fully as possible.

One of the first points to remember is that the internal or deep abdominal ring (see Figs. 3 and 5) is situated about an inch above and somewhat to the outer side of the middle of Poupart's ligament. The anterior wall of the canal is thus formed by both muscular (internal oblique) and fascial (external oblique) aponeurosis fibers in its outer third. In its inner two-thirds the anterior wall is formed by the external oblique aponeurosis alone (see Fig. 4) strengthened by the intercolumnar fibers.

These are the conditions as they exist in the male. In

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. DeForest Willard, Charles A. Powers and J. E. Moore.

the female the internal oblique, on account of the greater length of its attachment to Poupart's ligament (see Figs. 2, 3 and 5), assists in forming the anterior wall in its outer two-thirds. This greater protection and the fact that there is no structure to transmit which varies so in size as the cord, probably accounts in part for the lesser liability of females to inguinal hernia.

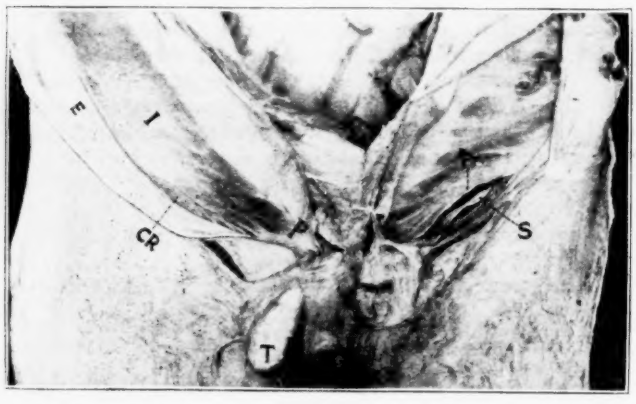


Fig. 1.—Dissection of inguinal region. Observe undescended testis on right side. E. External oblique aponeurosis turned back. I. Internal oblique muscle. P. Conjoined tendon. T. Non-descended testis. CR. Cremaster muscle. S. Spermatic cord. A. Arching fibers of internal oblique and transversalis.

There can be no longer any question that where the cremaster muscle or its fascia are well developed, they play a rôle in protecting the cord on the anterior wall (Fig. 1).

The posterior wall of the inguinal canal in both sexes is formed by the transversalis fascia, which is somewhat strengthened by the conjoined tendon of the internal oblique and transversalis muscles just behind the external ring, i. e., in its inner third.

Fig. 2.—Dissection of inguinal region of female. 1. Anterior superior spines of ilium. 2. External portion of aponeurosis of external oblique turned back. 3. Internal oblique muscle showing attachment to outer two-thirds of Poupart's ligament. 4. Conjoined tendon and sheath of rectus.

The roof or upper wall is formed by the arching fibers of the internal oblique and transversalis muscles. That this arch is shorter in females follows from the greater attachment to Poupart's ligament referred to above (Fig. 2)

The floor of the inguinal canal is formed by the shelving edge of Poupart's ligament and when the cremaster is well developed, also by this portion of the original internal oblique muscle.

In the child the canal is relatively shorter and straighter than in the adult.

In an examination of twenty-five male and nine female normal adult cadavers Dr. R. C. Turck of Chicago[1] found that the average length of attachment of the internal oblique was to the outer two-thirds of Poupart's ligament in the male and to the outer four-fifths of the same structure in the female. Drs A. H. Ferguson and Turck state that a smaller extent of attachment is a factor which greatly favors the origin of an oblique inguinal hernia through taking away one of the anterior supports of the deep or internal ring. My own observations have just begun in regard to this point, but in ten male cadavers which I have so far examined the findings were those which are given in the standard text-books of anatomy (Henle, Cunningham, Gray, Joessel and Hughes), viz., that the internal oblique is normally attached to the outer half only of Poupart's ligament.

I mention this fact because one of the arguments advanced in favor of not transplanting the cord and for suturing the internal oblique to Poupart's ligament in front of the cord is that it restores the normal anatomic conditions. There are undoubtedly cases of hernia in which a congenital deficiency in the insertion of the internal oblique exists, but their number is a small one.

I have taken especial care to observe the internal oblique in a large number of hernia cases and have never

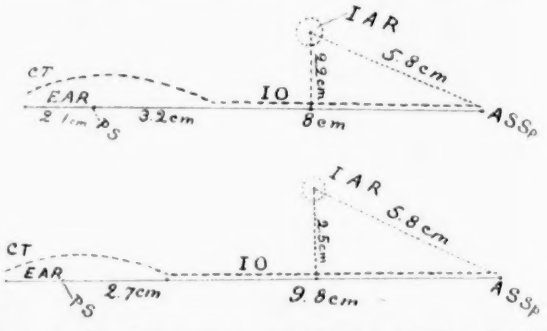


Fig. 3.—Taken from article by Dr. R. C. Turck. Relation of normal attachment of internal oblique muscle (IO) to Poupart's ligament and to the internal or deep abdominal ring (IAR). CT Conjoined tendon. EAR. External abdominal ring. PS. Pubic spine. AS. SP. Anterior superior spine of ilium. The upper figure represents conditions in 25 adult males, the lower in 9 adult female cadavers.

observed a case in which the insertion of this muscle was less than to the outer half of Poupart's ligament.

We must look farther for the anatomic factors which favor the origin and development of oblique inguinal hernia, and these are the laxity of the support which the internal ring and posterior wall receive from the transversalis fascia and conjoined tendon.

As regards the latter, J. B. Blake found in twenty-five dissections that the extent of the insertion of this tendon seldom exceeded five-eighths of an inch. This has been confirmed by the observations of Bloodgood.

A study of the recurrences of radical cure cases shows that in the majority it takes place at or near the internal ring. This may be due in part, as Halstead and Bloodgood have shown, to the space which must be left for the spermatic veins unless they are ligated and dropped back. In other cases it is no doubt due to the fact that the muscles which were sutured to Poupart's ligament have retracted or that too much faith was placed in the strength of the conjoined tendon and this part of the canal not sufficiently strengthened.

The smaller herniæ, especially if congenital, do not

1. THE JOURNAL A. M. A., April 15, 1899.

cause much enlargement of the internal ring or pushing aside of the arching fibers of the internal oblique or transversalis. These structures normally act as a sphincter when the abdominal muscles are contracted, to help strengthen this weak point in the abdominal wall.

The larger herniæ, such as the scrotal, tend to drag on the inner edge of the deep or internal ring so as to cause a considerable enlargement of the same.

Every surgeon who has occasion to perform many radical cure operations will frequently encounter cases in which the internal ring has become so greatly enlarged as to lie opposite the external. At the same time the gap lying between the arched fibers and Poupart's ligament and the edge of the rectus becomes a considerable one. These are the cases in which a plastic operation with the employment of strong structures to fill the defect is needed. It is the object of this paper to show that the modification of the original Bassini operation first suggested by Dr. E. Wyllys Andrews in 1895[2] is the ideal one to use in such patients as well as in those where the defect is not so great.

Before describing this operation permit me to briefly review the chief objects of the various methods of radical

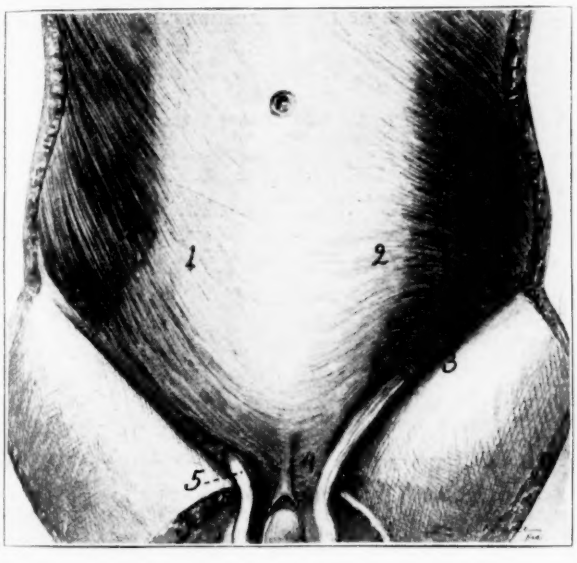


Fig. 4.—Dissection of inguinal region (superficial layers). 1. Placed on aponeurosis of external oblique muscle. 2. Placed on aponeurosis of internal oblique muscle. 3. Extent of attachment of internal oblique to Poupart's ligament (outer half). 4. Conjoined tendon of internal oblique and transversalis muscles. 5. Spermatic cord emerging from the external abdominal ring.

cure which are being most frequently employed in this country and abroad.

The original Bassini operation (see Fig. 10) aimed to strengthen the normally weak posterior wall of the inguinal canal by suturing the internal oblique and transversalis muscles to the inner aspect of Poupart's ligament behind the cord. Coley made a valuable modification by inserting a suture above the cord, thus enabling the operator to still further reduce the space left at the upper angle of the wound for the passage of the cord and its vessels. The fact that in 917 of his cases there were only 11 recurrences certainly speaks well for this operation. These were all cases in which the cord was transplanted. In 20 in which it was left behind the muscles there were six recurrences. In many of the cases a fatty or atrophied internal oblique or a weak conjoined tendon were no doubt the cause of the recurrence. The Bassini operation with the additional suture suggested by Coley is still the operation of choice with the majority of surgeons.

Such cases of fatty and atrophic or deficient internal oblique as well as the other causes of recurrence after the typical Bassini operation, led a number of surgeons to devise methods in which the cord should be left in its

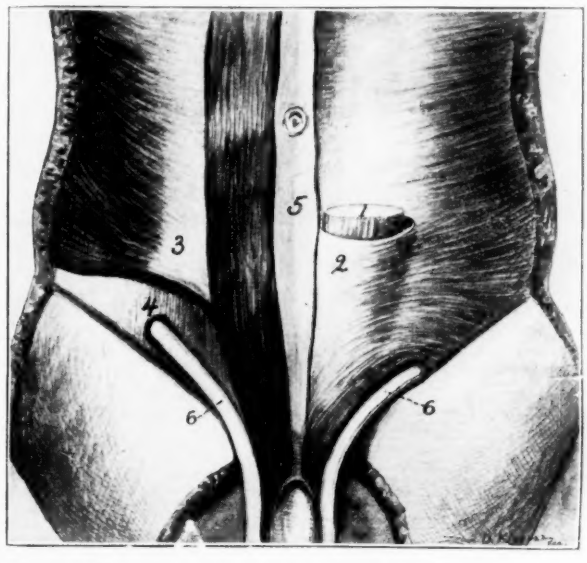


Fig. 5.—Dissection of inguinal region (deeper layers). 1. Body of rectus muscle lying in its sheath. 2. Sheath of rectus formed here by aponeuroses of external oblique, internal oblique and transversalis muscles. 3. Aponeurosis of transversalis muscle. 4. Transversalis fascia and internal or deep abdominal ring. 5. Linea alba. 6. Spermatic cord.

natural bed, resting on the transversalis fascia and not transplanted. The internal oblique and transversalis muscles are thus sutured to the inner side of Poupart's ligament in front of the cord.

I will describe these briefly in the order of their publication. In 1892 Wölfler[3] suggested suturing the inter-

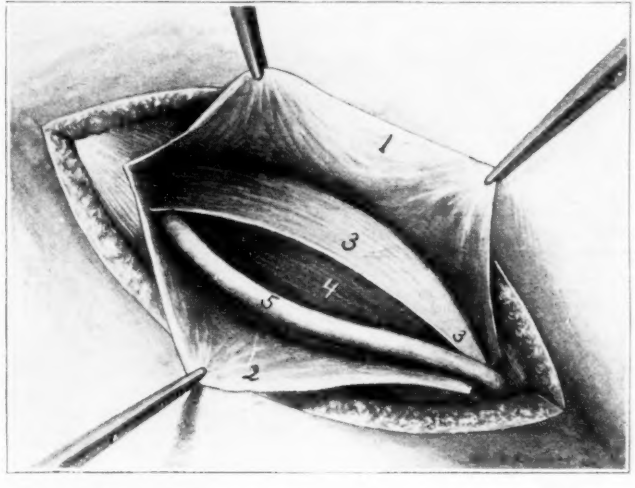


Fig. 6.—Inguinal canal laid open by incising the aponeurosis of the external oblique muscle. (Step 1 of Andrews' operation.) 1. Internal portion of external oblique aponeurosis. 2. External portion of external oblique aponeurosis. 3. Edge of internal oblique muscle. 4. Transversalis fascia. 5. Spermatic cord.

nal oblique and transversalis to Poupart's and closing the remainder of the gap by also bringing the edge of the rectus or its sheath to the same ligament.

In 1899 the excellent report by Dr. Bloodgood[4] again

2. Chicago Med. Rec., August, 1895.

3. Wiener medizinische Blätter, No. 43, 1892.

4. Johns Hopkins Hospital Reports, vol. vii, 1899.

called attention to his own method of transplantation of the rectus in closing the defect at the lower angle of the wounds.

In the same year Dr. A. H. Ferguson[5] described the operation named after him. He laid stress on the observations made by Dr. Turck on cadavers (referred to at the beginning of this paper) and to his own clinical

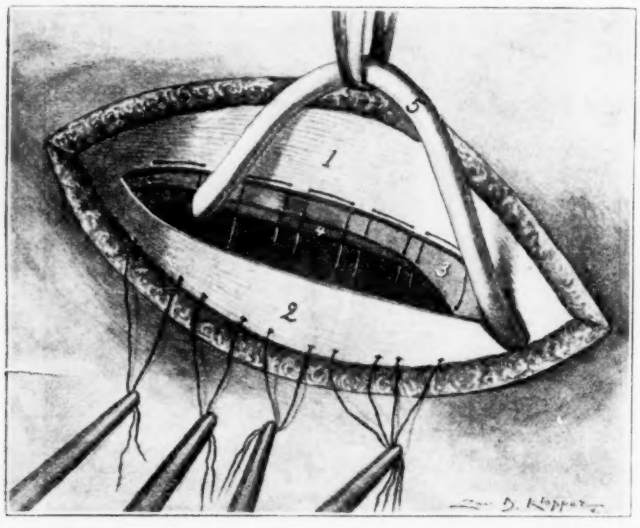


Fig. 7.—Step 2 of Andrews' operation. This illustration shows how sutures have been inserted through the internal portion of the external oblique aponeurosis (1) and the edges of the internal oblique (3) and transversalis (4) muscles and carried through the shelving edge of Poupart's ligament and close to the insertion of the external portion of the external oblique aponeurosis (2). One suture is placed above the spermatic cord (5), which is held to one side and 2 to 4 below it. (See text.)

experience to the effect that the extent of the normal insertion of the internal oblique was the outer two-thirds of Poupart's. In his operation he aims to restore normal anatomic conditions by suturing the internal oblique and transversalis to Poupart's in front of the cord (Fig. 10).

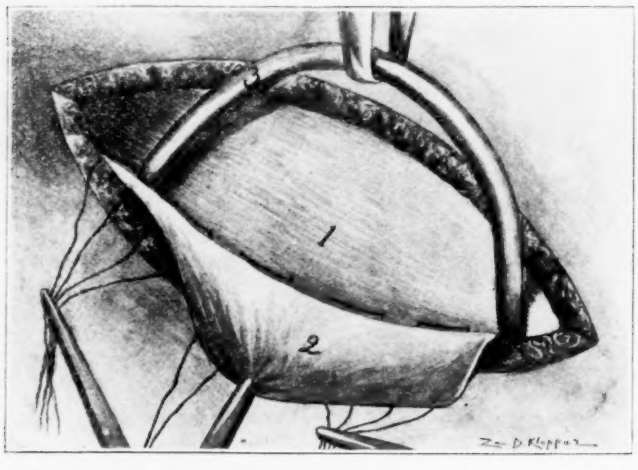


Fig. 8.—Step 3 of Andrews' operation. The structures which have been included in the sutures above and below the cord (3) are drawn over to Poupart's ligament just before tying the sutures and replacing the cord between its new coverings, which are the internal (1) and external (2) portions of the external oblique aponeurosis.

At the same time he diminishes the size of the internal ring in the transversalis fascia by sutures.

In 1900 Ch. Girard of Berne[6] published a method (see Fig. 10), which he states was previously described by one of his students in a thesis in 1894. This latter, so far as I am able to learn, never was published in any journal prior to 1900.

Girard advised suturing the internal oblique and transversalis to Poupart's ligament without displacing the cord. At the same time he imbricates the external oblique edges in a manner similar to that of Andrews (to be described below).

In 1903 Dr. W. S. Halsted[7] (see Fig. 10), described the method now in uniform use at the Johns Hopkins Hospital, in which the cord is left in its bed and its veins ligated when large, and the vein stump dropped back. The suture with which the hernial sac is ligated is carried far out under the internal oblique muscle and tied after passing through this muscle. The cremaster muscle is then sutured to the posterior surface of the internal oblique. The edge of the latter muscle, as well as the anterior sheath of the rectus, is now sewed to Poupart's ligament. As a last step the external oblique edges are overlapped as in the Andrews operation.

In 1895 Dr. E. W. Andrews[2] described a method which he termed the imbrication or lap joint. It consisted essentially of adding a third layer to those which Bassini places behind the transplanted cord. This third layer is the inner portion of the external oblique aponeurosis

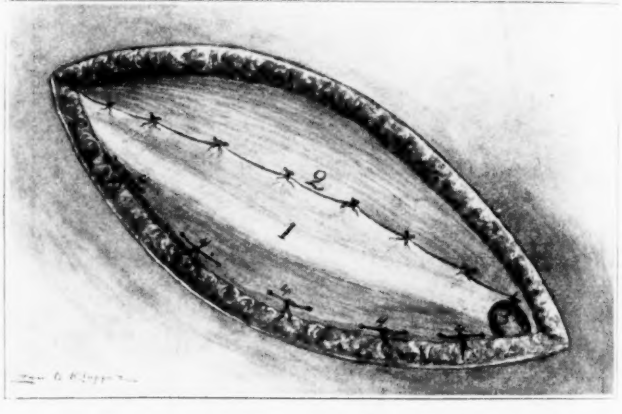


Fig. 9.—Step 4 of Andrews' operation. The kangaroo tendon sutures shown in Figures 5 and 6 have been tied. The knots (4) lie on the outer side of the external portion (1) of the external oblique aponeurosis. The contour of the cord (3) is seen lying in its new canal formed by bringing the edge of the external portion of the external oblique aponeurosis (1) over and suturing it by interrupted catgut sutures to the outer aspect of the internal portion (2) of the same aponeurosis.

which has resulted from the splitting of this structure incidental to opening the canal. The cord is then placed on this layer and the outer portion is brought over it somewhat after the manner of a double-breasted coat.

In this original paper[2] he described and showed illustrations of a number of different ways in which the overlapping could be done. In one of these the inner portion of the external oblique aponeurosis, in addition to the internal oblique and transversalis, are sewed to Poupart's in front of the cord.

I have mentioned all of these methods briefly to show how different surgeons have striven independently of each other to remedy the defects of the Bassini operation. The Wölfler, Ferguson, Girard and recently published Halsted-Bloodgood operation, as well as one of the methods of performing the Andrews operation just referred to, all aim to fill the defect by placing a bulwark of muscles in front of the cord, which latter is not disturbed.

5. THE JOURNAL A. M. A., July, 1899.
6. Archives provencale de Chirurgie, October, 1900.
7. Johns Hopkins Hospital Bulletin, August, 1903.

Further experience alone can determine whether we shall adopt these methods universally and discard the transplantation of the cord or continue to transplant by the Bassini or its Andrews modification.

Almost any method which completely obliterates the sac alone will suffice for smaller herniæ.

For those which are larger and of long duration, in which there is a marked muscular defect and a large internal ring, an operation like that of Dr. Andrews seems destined to become the ideal one.

As early as 1871, Billroth said "the secret of the radical cure of hernia is to find tissues which have the strength of fasciæ." This has been accomplished by the operation which I will describe for the purpose of again familiarizing the profession with it. The technic is as follows and can be followed by a reference to Figures 6, 7, 8, 9 and 10.

Step 1.—Skin incision having been made from middle of Poupart's to spine of pubes and edges well retracted, great care is exercised to secure accurate hemostasis. The external oblique aponeurosis is now divided and the two flaps reflected (Fig. 6). Sac separated from cord and after being transfixed is ligated with catgut as high up as possible and dropped back. The outer portion of the external oblique aponeurosis is made free as far as Poupart's ligament.

Step 2.—The cord having been held aside by an assistant, kangaroo tendon sutures (Fig. 7) are inserted above and below the cord, as follows: A needle is threaded on each end of the tendon and the suture first passed through the edge of the inner portion of the external oblique aponeurosis. It next includes as much as possible of the muscular fibers of the internal oblique and transversalis and both needles are then carried through the shelving edge of Poupart's ligament. The free ends of the suture, after the needles have been taken off, lie on the external aspect of the aponeurosis (Fig. 7).

The sutures at the angle of the wound which corresponds to the external ring, include the edge of the rectus and conjoined tendon and are inserted as close as possible through the innermost portion of Poupart's, where it is reflected on the symphisis pubes. One suture above and two to four below the cord usually suffice.

Step 3.—The suture above the cord is first tied, then the one immediately below it, thus enabling the operator to determine the amount of constriction of the cord. The remainder of the deep sutures are now tied, the knots lying on the outer side of that portion (outer) of the external oblique aponeurosis, which is attached to Poupart's ligament (see Fig. 8). The cord is next laid on the posterior wall of its new canal.

Step 4.—The edge of the outer half of the external oblique aponeurosis is brought over so as to cover the cord and sewed by interrupted catgut sutures to the external aspect of the inner half (Fig. 8). The skin is sutured with catgut or horsehair.

The relations after this operation are well shown by the second diagram of Figure 10. The cord lies in a new inguinal canal whose posterior wall has three layers, one of which is a powerful aponeurosis. Its anterior wall is composed of one layer of the same strong character.

The Andrews operation has been used by a number of Chicago surgeons, Drs. Andrews, McArthur, Greensfelder, Williams, Frank, Schroeder and myself, in over 1,000 cases, but no attempt has been made to re-examine this large number of cases.

In order to determine the results of a number of cases operated on with the same technic by Drs. Andrews, Greensfelder and myself at the Michael Reese Hospital, I sent letters to 110 patients who had been operated on one year prior to June 1, 1903. The majority of surgeons agree with Coley that 80 per cent. of all recurrences take place within one year after operation, so that I chose this latter period as a guide.

Only those who have attempted the task of examining cases of radical cure of hernia in our larger cities can appreciate its difficulties, so that the comparatively small number of cases examined is no criterion of the value of this operation.

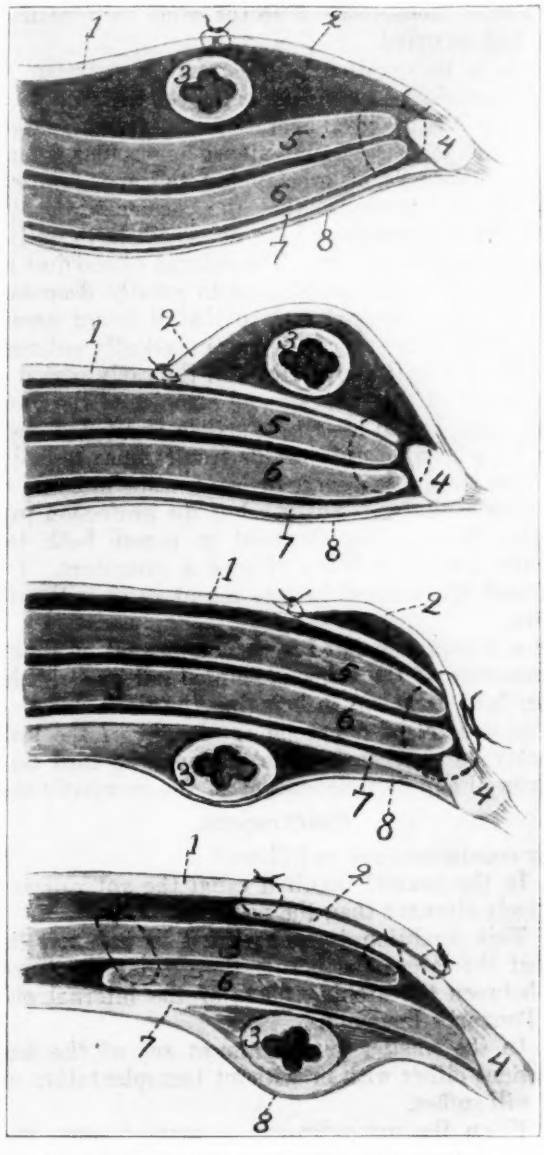


Fig. 10.—Arrangement of aponeurosis and muscles in various modern operations (semi-diagrammatic) for radical cure of inguinal hernia. A. (Uppermost.) Typical Bassini. B. (Second from top.) Andrews' modification of Bassini. C. (Third from top.) Ferguson (Girard-Wolfler). D. (Bottom.) Halstead-Bloodgood. 1. Internal portion of external oblique aponeurosis. 2. External portion of external oblique aponeurosis. 3. Spermatic cord. 4. Poupart's ligament showing shelving edge. 5. Internal oblique muscle. 6. Transversalis muscle, except in Halstead's operation, where represents cremaster muscle. 7. Transversalis fascia. 8. Peritoneum.

Of 110 patients whom we wished to examine 27 were no longer in the city directory. Letters were sent to the addresses given in the directory of 52 patients, but none responded. Of 28 who were examined by myself there were two recurrences. In one of the cases the patient had been operated on five years before, had gained fifty pounds in weight and had become dropsical. The hernial protrusion had only occurred two months

before the examination, so that the onset of the ascites from cirrhosis of the liver, combined with hard work as a baker, would in a great measure favor a recurrence.

The second case of relapse occurred two years after operation in a patient with a severe chronic bronchitis. Two other patients answered by letter that their hernia had not recurred and that they were able to do heavy work.

As I stated above, it does not seem fair to figure percentages from the 30 cases examined because the other patients are to a great extent of a migrating class, but who would probably come to the same hospital if a relapse had occurred.

There is no question in the mind of everyone of us who has employed this modification of the Bassini operation that it is the ideal operation, especially for cases of hernia with large ring and extensive muscular defect.

The advantages of overlapping the aponeurotic and muscular structures are that the former while elastic, possess great strength and are not so likely to pull away from Poupart's ligament. The sutures placed just above and below the cord enable one to greatly decrease the size of a large internal ring so that it is not necessary to resect the veins unless they are markedly enlarged.

At the Johns Hopkins Hospital the early period cases of resection of the veins showed atrophy of the testis in 10 per cent., but in his recent article Halsted states that there have been no unfavorable results since resection of the veins is used as a more or less routine measure when the veins are large. Nevertheless the profession in general has been rather skeptical in regard both to the necessity and advisability of such a procedure. I have employed the method in two recent cases without bad results.

In a hernia associated with non-descent of the testis the resection of the veins as pointed out by Griffith and Bevan is of great aid in bringing the testis down. The fear in general of gangrene or atrophy of the testis is probably an exaggerated one, because the cord receives an arterial supply independent of the spermatic vessels.

CONCLUSIONS.

My conclusions are as follows:

1. In the normal inguinal canal the anterior wall is relatively stronger than the posterior.

2. This condition is exaggerated in inguinal hernia so that the larger the hernia the greater the muscular gap between the arching fibers of the internal oblique and Poupart's ligament.

3. In the smaller herniæ almost any of the modern operations either with or without transplantation of the cord will suffice.

4. When the muscular gap is marked some method must be employed in which a strong aponeurotic structure is used to fill the gap.

5. The Andrews modification of the Bassini operation, by utilizing a portion of the external oblique aponeurosis as an additional layer in the posterior wall of the canal, gives the latter great strength.

6. The majority of surgeons believe best results are obtained by not transplanting the cord. It is still an open question whether or not the veins should be resected.

NOTE.—The discussion on the papers of Drs. Eisendrath and McArthur will follow the paper of Dr. McArthur in a week or two.

New Variety of Ulcer.—An index medicus published in France (not Baudouin's), includes under the heading of endemic ulcers articles referring to the Murphy button.

THE RELATION OF ACUTE INFECTIONS TO ARTERIOSCLEROSIS *

WILLIAM SYDNEY THAYER, M.D.
Associate Professor of Medicine in Johns Hopkins University.
AND
CLINTON ETHELBERT BRUSH, JR., M.D.
Assistant Resident Physician, Johns Hopkins Hospital
BALTIMORE.

In a recent study in which one of us has been engaged, on the cardiac and vascular complications and sequels of typhoid fever,[1] several rather suggestive facts have come to light with regard to the possible causal relation of this disease to sclerotic changes in the arteries.

One hundred and eighty-nine individuals who had passed through typhoid fever under our observation were examined months and years after their infection. It was found that among these individuals:

(*a*) The radial arteries were palpable in a surprisingly large proportion of cases as compared with control observations on healthy men and women who had never had typhoid fever.

Between the ages of 10 and 50, 48.3 per cent. of the old typhoids showed palpable radials, as compared with 17.5 per cent. among ordinary healthy individuals. These proportions held in every decade, and were not essentially modified in tables from which all giving a history of serious infections or alcoholic habits had been excluded.

(*b*) The average systolic blood pressure (Riva-Rocci) was materially higher in every decade among the old typhoids than in control observations on healthy individuals who had not had typhoid fever.

(*c*) The average size of the heart was larger among the old typhoids when considered in groups arranged by age, according to decade, than in figures obtained from examination of the typhoid patients at the time of admission to the hospital.

Furthermore, we have been rather impressed by the frequency with which early endarteritic plaques are found in the aorta and coronary arteries of patients dying of typhoid fever.

Out of 95 necropsies on patients dying of typhoid notes were made on the condition of the aorta in 52. In 30 of these sclerotic changes were observed. These are described as fresh in at least 21 instances.

In 62 cases the condition of the coronary arteries was noted. In 19 of these definite sclerotic changes were described, while in 4 others "yellow opacities of the intima" were observed. In 13 cases the changes were described as "early" and "fresh."

These figures would tend to support the view that typhoid fever must be regarded as a factor in the production of arteriosclerosis. The rôle of infectious diseases in the production of acute arteritis in medium-sized and smaller vessels is undoubted. Their influence, however, on the development of the more chronic changes which are included under the term arteriosclerosis has been and still is a disputed question.

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank Jones and W. S. Thayer.

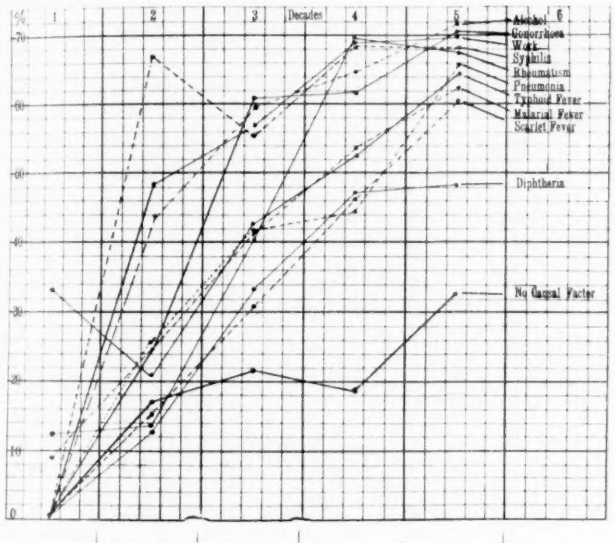
1. Thayer: On the Late Effects of Typhoid Fever on the Heart and Vessels, Am. Jour. Med. Sci., 1904, vol. cxxvii, p. 391. Thayer: On the Cardiac and Vascular Complications and Sequels of Typhoid Fever, the Jerome Cochran Lecture, Mobile Medical and Surgical Journal, 1904, vol. v, No. 1.

EDITOR'S NOTE.—One of the authors wishes it understood that the spelling used in this article is according to the standard adopted by THE JOURNAL.

It occurred to us that some light on the relative influence of acute infections as compared with other, probably more important causal factors might be obtained by a consideration of the records of palpability of the peripheral arteries in a large number of consecutive histories of patients in Professor Osler's wards. In these histories careful inquiry is made, not only into the record of previous infectious diseases, but also into the habits of the patient with regard to alcohol and heavy work.

It may be well to say at the outset that these figures deal entirely with the records of palpability of the radial arteries. It is well recognized that the palpability of a radial artery alone may bear little relation to the existence of sclerotic changes in other vessels, and, in the individual case, by no means justifies the assumption that arteriosclerosis exists elsewhere. It is also recognized that, in thin subjects, radial arteries which are free from change may at times be rolled under the finger. On the other hand, it is common enough to find grave changes in the aorta, coronary arteries and other vessels with perfectly soft radials. Again, in the later decades, the palpability of the radials is, in a certain proportion of cases, dependent on calcification of the media, which is entirely independent of arteriosclerosis as such. Notwithstanding these considerations, we believe that changes in the radial arteries sufficient to justify a note in the course of an ordinary visit are in a considerable proportion of cases associated with arteriosclerotic changes elsewhere, and that this proportion is large enough to give a certain value to a series of observations such as we wish to present.

CHART 1.—Showing the percentage of cases in which the radial arteries were papable in patients giving the histories of various acute infections, alcohol and work, compared with those cases in which there was a history, no causal factors.



Pr. ct.	0.82	16.6	21.4	18.5	32.6
Cases	121	186	167	102	52
Pr. ct.	0	12.8	33.4	47.2	48.1
Cases	10	39	92	74	49
Pr. ct.	0	15+	30.8	46.2	60.4
Cases	9	53	123	119	86
Pr. ct.	9+	25.3	40.8	53.7	62.4
Cases	11	74	252	253	213
Pr. ct.	33.3	20.8	42.5	52.1	64.7
Cases	6	48	162	142	119
Pr. ct.	0	25.8	41.2	44.1	65.9
Cases	9	31	109	120	94
Pr. ct.	12.5	13	40.6	69.3	67.8
Cases	8	46	128	150	109
Pr. ct.	0	24.1	60.9	61.7	70.3
Cases	0	29	133	128	91
Pr. ct.	0	66.6	55.8	68.1	68.0
Cases	0	6	43	66	47
Pr. ct.	0	43.6	59.4	64.8	70.8
Cases	1	103	589	490	357
Pr. ct.	0	48.1	56.1	68.5	69.6
Cases	0	83	340	312	254

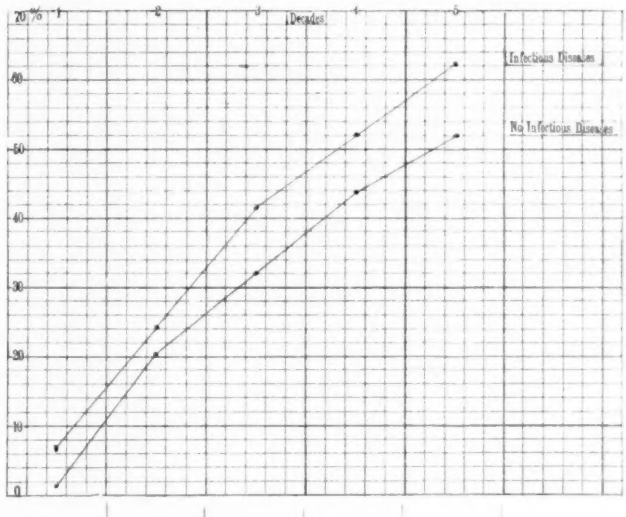
	No causal factor.
	Diphtheria
	Scarlet fever.
	Malarial fever.
	Typhoid fever.
	Pneumonia.
	Rheumatism.
	Gonorrhea.
	Syphilis.
	Alcohol.
	Work.

Out of 3,894 consecutive patients admitted to the medical wards of the Johns Hopkins Hospital, the radial arteries were described as palpable in 1,860 instances, or 47.7 per cent. No note was made as to the condition of the vessel in 1,492 cases, while it is expressly stated that the arteries were soft in 582 cases.

These cases were separated into groups in which a history was obtained of diphtheria, scarlet fever, malarial fever, typhoid fever, pneumonia, rheumatism, syphilis, gonorrhea, alcohol and heavy work. Another group consisted of those cases presenting none of these causal factors. It should be said that under alcohol are included, not alone those who used alcohol to excess, but all patients who acknowledged that they took alcohol in any form.

Chart I shows the proportion of cases showing palpable radial arteries in each one of these groups arranged according to age by decades. Recognizing the fact that, above the age of 50, the proportion of cases showing calcification of the media might well be large enough to materially vitiate the results, we have considered the figures for the first five decades only.

CHART 2.—Showing the percentage of cases in which the radial artery was palpable in 2,031 cases in which a history of the more serious infectious diseases was obtained, and 1,111 cases in which there was no such history, arranged according to age, by decades.



Pr. ct.	6.8	24.3	41.8	52.1	62.1
Cases	44	255	664	619	149
Pr. ct.	0.8	20.2	32.0	43.9	52.3
Cases	119	252	350	241	149

	History of infectious diseases.
	History of infectious diseases.

It becomes evident from a glance at this chart that the statistics with regard to syphilis and gonorrhea must be of little value on account of the absurdly small proportion of cases in which a history of venereal disease was acknowledged. The curves fall into three main groups. Those for work, alcohol and syphilis stand materially above the others. Below this group comes a second, consisting of the remaining acute infections, and lastly, toward the base line is the curve of those cases in which the history of no causal factor was present. Rheumatism, typhoid and malarial fevers seem to lead in the second group.

In order to gain a more definite idea of the statistics with regard to infectious diseases in general, the cases were divided into two groups according to the presence

or absence of a history of the above-mentioned acute infections. In each of these groups the percentage of cases in which the radial arteries were palpable was estimated. This resulted in a demonstration (Chart 2) of the fact that the radials were palpable in considerably higher proportion in those cases giving a history of previous infectious disease.

Inasmuch as in the great majority of cases each individual presented a history of multiple causal factors, it seemed to us important to prepare a third chart in which

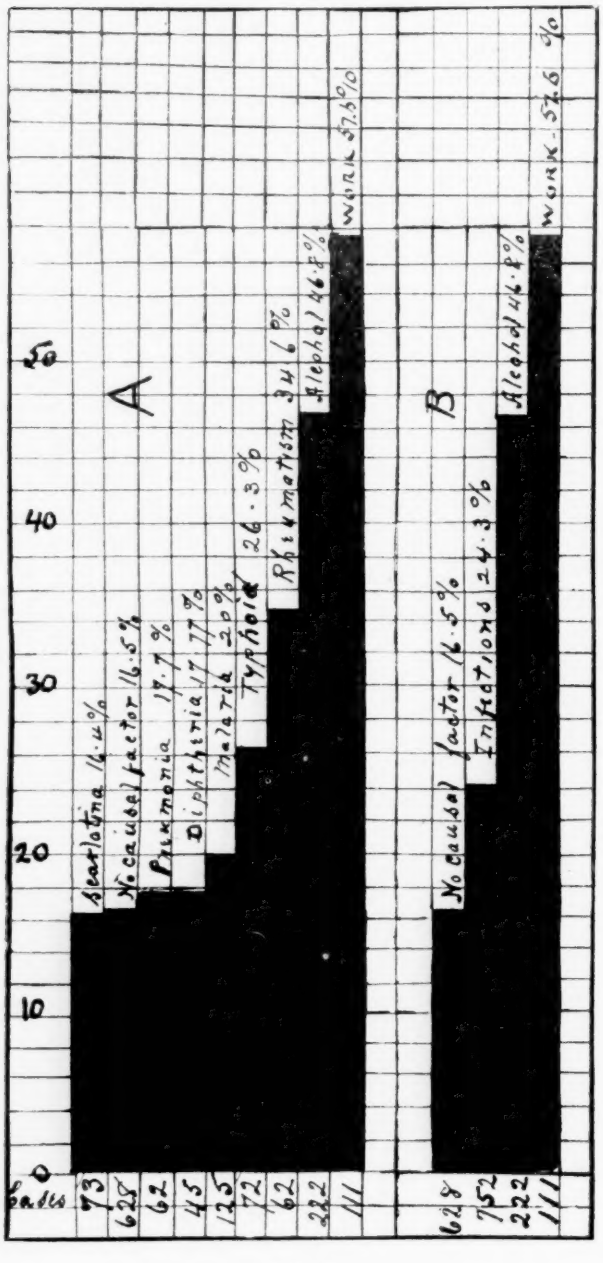


Chart 3.

there were included only those cases where a single one of these factors was present. When considered from this standpoint, the number of cases in each group is so small that a consideration of curves by decades becomes impossible.

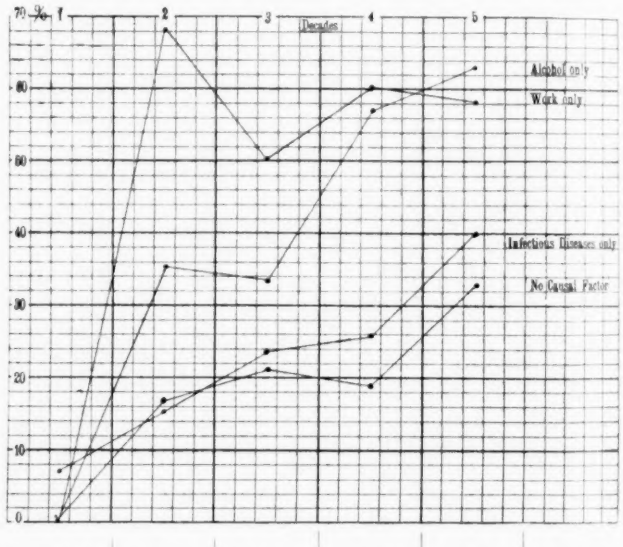
Figure A in Chart 3, therefore, represents the proportion of palpable radials in the first five decades of those cases in which a history of only one of the several causal factors which we have mentioned was present.

An examination of this chart reveals the fact that the figures simply emphasize those brought out by Chart 1. By far the highest percentage of palpable radials was found among the cases with a history of heavy labor (57.6). Next to this come the figures for the patients who gave only a history of alcohol (46.8 per cent.). Among the acute infections, rheumatism, as might be expected, leads (34.6 per cent.), with typhoid fever second (26.3 per cent.), the other infections occupying a subordinate position.

The cases giving a history of syphilis and of gonorrhea alone were so absurdly small in number that they have been omitted from the list. Only 12 cases under 50 years of age gave a history of syphilis alone; among these were 2, 16.6 per cent., who showed palpable radials. 10 cases gave a history of gonorrhea alone; in 40 per cent. of these the radial was palpable.

Chart 4 illustrates the proportion of palpable radial arteries in those cases in which there was a history of

CHART 4.—Illustrating the percentage of cases showing palpable radial arteries in patients giving a history of heavy work, alcohol or infectious diseases alone, as compared with those cases in which the history of a causal factor was obtainable.



Pr. ct.	0 82	16.6	21.4	18.6	32.6
Cases	121	186	167	102	52
Pr. ct.	7 1	15 4	23 9	26	39 8
Cases	42	149	255	188	118
Pr. ct.	.0	35.4	33 7	56 9	63 0
Cases	0	31	80	65	46
Pr. ct.	.0	68 0	50.0	60 0	58 3
Cases	0	25	42	20	24

(No causal factors.
(Infection alone.
(Alcohol alone.
(Work alone.

acute infections only, along with those presenting a history of alcohol and work alone. The lower line represents the cases in which there was a history of no causal factor.

The relation of the percentages of palpable radials in these several groups is brought out more clearly in Figure B of Chart 3. The small proportion of palpable radials among the cases giving a history of acute infections alone (24.3 per cent.), as compared with those giving a history of heavy work (57.6 per cent.) or alcohol (46.8 per cent.), stands out strikingly.

CONCLUSIONS.

As the result of an analysis of the records of nearly 4,000 patients entering consecutively the medical wards of the hospital, we find that:

1. The percentage of palpable radial arteries is materially higher among those individuals in whom there is a history of heavy physical labor and of the use of alcoholic stimulants than in the remaining cases. This

percentage is appreciably higher in the cases giving a history of heavy work.

2. The percentage of palpable radial arteries is higher among those cases presenting a history of severe infectious diseases than among those in which this history is absent or among those in which a history of no causal factor could be obtained. The proportion is, however, far below that in the case of work or alcohol.

3. Rheumatism appears to be the acute infection after which the percentage of palpable vessels is highest, and next to rheumatism, typhoid fever.

As previously stated, it is well recognized that the results of such an investigation as this justify only rather rough generalizations.

Are we even warranted on a *post hoc propter hoc* principle, in assuming that work, alcohol and, in a subordinate way, the infectious diseases are the main or important causes of the changes which result in palpable radial arteries? Not necessarily. It is, however, not uninteresting that the results should, so far as they go, support the generally accepted views.

It seems to us there can be small doubt that the main etiologic factor in the development of the hyperplastic thickening of the intima, which constitutes so important an element of arteriosclerosis, is overstrain of the vascular walls, continued or intermittent high tension, whatever its ultimate cause may be. Heavy physical labor is assuredly one of the most important of these causes. It is not inconceivable that the rôle of the acute infections may be rather in the production of those focal degenerations with secondary regenerative changes which constitute the other important element in arteriosclerosis.

ARTERIOSCLEROSIS OF SYPHILITIC ORIGIN.*

C. TRAVIS DRENNEN, M.D.
HOT SPRINGS, ARK.

Undoubtedly syphilis is quite capable of producing, and does produce, in certain instances, arteriosclerosis, but the existing relationship is somewhat obscure.

There is no disease in the whole category of diseases which brings to view so many and varied symptoms as syphilis, and it would be singular, indeed, if it did not enter as a causative factor in the production of arteriosclerosis when taking into consideration its known tendency to produce sclerosis in various organs.

That syphilitic arteritis and endarteritis do occur not infrequently, and that, too, early during the history of this disease, is recognized as a fact both by clinician and pathologist; furthermore, there is probably no disease which is so amenable to treatment, if such be instituted prior to pathologic changes which are not absolutely beyond repair. It will perhaps ever remain an open question as to just how syphilis attacks the vessels, but enough is known to lead us to presume that it comes about through the lymph spaces supplying the vessels.

I have often wondered if one day we would not come to recognize that vascular changes invariably occurred prior to organic changes in many of our so-called nervous diseases. Nerve-cells must be fed, and any alterations of the vessels themselves necessarily would secondarily bring about a starvation process, provided such alteration became permanent.

That arteriosclerosis is responsible for locomotor ataxia in certain instances and that syphilis enters largely as a factor in bringing about these results is a view regarding which I have rather firm convictions. I have long been persuaded that arteriosclerosis does not depend on any specific irritant for its production, but that in all cases a combination of elements enter as causative factors. Any agent or combination of agents that is continuously left to circulate within the vessels which are foreign to normal cell life will sooner or later be followed by the very changes now under consideration, no matter whether said agent or agents be alcohol, lead, syphilis, auto-intoxication, or otherwise. To me it is passing strange that a drug like mercury, which is more commonly used in the treatment of syphilis than any other, and has been for ages past, has not been considered one of the chief agents in the production of arteriosclerosis. When we come to consider the fact, it would be almost marvelous if at times we did not recognize the possibility, and even the very strong probability, of such being true, when we know so well the method commonly adopted by the profession at large to-day in the administration of mercury for the relief of syphilis.

What has been the custom and teaching of some of our very best writers regarding this subject for the past quarter of a century? Have we not been led to believe that the so-called tonic treatment of syphilis with mercury was the only royal road to success? Has it not been the practice of many physicians to prescribe mercury for a period of two years, practically without interruption?

I maintain that mercury is a metallic poison and altogether foreign to normal cell production, and when it is thrown into vessels, and there left to circulate for many months, and even years, whether done on the advice of a physician or through self-prescribing, we will find an agent that is just as capable of producing arteriosclerosis as syphilis or any other agent.

So many times has it happened that patients have come to my office who have been under continuous syphilitic treatment for many years, and, after having given a complete history of the affair, draw from their pockets a little bottle of mercury pills, or of some other pharmaceutic preparation, and relate with painstaking care just how much of this very much abused drug they have been taking during the past three or five years—daily, as the case may be—practically without interruption. It is common enough, I assure you, to warrant me in the belief that to-day more persons are treating themselves for syphilis than are under treatment by regular physicians. With this reckless, senseless and indiscriminate use of a drug like mercury, need we expect otherwise than to find arteriosclerosis resulting, particularly so when combined with one of man's oldest and most treacherous enemies, syphilis?

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank Jones and W. S. Thayer.

A Law in Puerperal Pathology?—The *Semana Medica* No. 10, 1903, quotes Corminas to the effect that in his large experience he has never known a fatal case of puerperal infection associated with acute mammitis. Recovery is the invariable rule when the puerperal infection is accompanied by an acute mammary lesion. He suggests that the presence of a lesion with attenuated infection may induce the formation of antibodies which exert a favorable influence on the virulent focus in the uterus. It is possible, he adds, that if fixation turpentine abscesses were made in the breasts instead of elsewhere, they might have a more powerful immunizing action, especially in case of infection involving the genital apparatus.

ARTERIOSCLEROSIS OF NEPHRITIC ORIGIN.*

GEORGE DOCK, M.D.
ANN ARBOR, MICH.

Perhaps many of you will think of the celebrated chapter on "Snakes in Iceland" in connection with the title assigned to me. Most authors on the subject say little or nothing in line with the view suggested, some dismiss it by saying that arteriosclerosis is a common cause but rarely a result of nephritis, while others say that nephritis and arteriosclerosis are often combined and due to the same cause. A few admit that nephritis may cause arteriosclerosis by the prevention of elimination and the throwing into the circulation of substances that either injure the walls of the arteries directly or increase vascular tension, so causing hypertrophy of the heart, high pressure and later disease of the arteries.

It is doubtless true that in many cases the arterial disease causes the renal disease. It is of great clinical importance that the kidney lesion may be very severe, yet latent, and we often see how, under the influence of an acute intoxication, as in infectious diseases, severe symptoms may suddenly develop, and quickly cause death, when advanced renal degeneration is discovered. In pneumonia, influenza, appendicitis and many other diseases such events often far outweigh the importance of the acute malady. It is generally accepted that a chronic nephritis, either interstitial or parenchymatous, in a person with previously healthy blood vessels, may cause arteriosclerosis by retention of injurious substances, which act either on the walls of the vessels or cause reflex spasm. The arterial spasm in turn is assumed to be either general or largely renal. It is often supposed, also, that in interstitial nephritis the mechanical obstruction to the circulation assists in causing high pressure, and, as every parenchymatous nephritis is associated sooner or later with some interstitial change, it is easy to explain many cases of arteriosclerosis on the grounds just mentioned. But it is well to remember that there is a great deal of assumption and no actual knowledge of such processes.

The recognition of the earliest stages of arteriosclerosis is only beginning to assume a practical character. By the use of instruments for measuring blood pressure, and by the more careful study of symptoms and physical signs, it will be possible to put this subject on a more definite basis than at present.

The relation of acute nephritis to arteriosclerosis is also a promising field for observation. Hitherto comparatively little has been done. If chronic nephritis can injure vessel walls by poisonous substances or spasm, there is good reason for thinking that acute nephritis can do so. In fact, the toxic symptoms in acute nephritis are often more marked than in chronic cases, and if the duration is often short we must believe that sufficient time is not rarely present for serious damage of tissues. Moreover, the edema that occurs early in some cases of acute nephritis is generally, and I think correctly, ascribed to an injurious action of products of disease on the blood vessels, and even if these are smaller vessels the ultimate danger must still exist.

The pathology of such processes has been assigned to abler hands, so that I need not discuss it. I wish to call attention to the value of clinical study. The importance of hypertension in causing vascular disease is now well recognized. The detection of the supposed toxic substances and the explanation of their mode of action on the cells need not detain us now. If there is hypertension in acute nephritis, we must admit that it may lead to disease of the intima, followed by compensatory and, later, by degenerative changes.

There is but little literature on this, but now that methods of investigation are becoming simpler the evidence is certain to increase. In a recent case in my clinic, a previously healthy boy of 15 years had acute nephritis following a sore throat so mild that it was not treated by a physician. In about three weeks there was slight anasarca, the urine solidified on boiling, and contained many casts, but no blood. There were several attacks of uremia of various degrees, and after two months death suddenly occurred in another attack. During the whole course of the disease the blood pressure was high, measuring from 170 to 190 mm. on the Cook's Riva-Rocci instrument. It was interesting to note that with this pressure, and an accentuated aortic second sound, there was no evidence of dilatation of the heart.

Many cases of acute nephritis apparently as severe as this one recover, and I think we must believe that when they occur they may act as causes of vascular sclerosis. Further investigations will show whether the milder affections of the kidney, so common in acute infections, are associated with high blood pressure. It must, of course, be remembered that the other causes of arteriosclerosis, emotional, dietetic, infectious and toxic, are also to be searched for in such cases. What I wish to do now is to assert the possibility of renal diseases of all kinds assisting in the production of arterial disease, and to plead for a more extensive clinical investigation in order to show the extent and, if possible, the explanation.

NOTE.—The rest of the papers in this symposium, together with the discussion, will appear next week.

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank Jones and W. S. Thayer.

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PART II. THE SERVICE AS IT IS TO-DAY.

(*Continued from page 667.*)

(C) THE FUNCTIONS OF THE SERVICE.

The functions of the Public Health and Marine-Hospital Service may be considered two-fold, viz., those of a Marine-Hospital Service and those of a Public Health Service. It must not be supposed, however, that any such division really exists in the service. An assistant surgeon has a tour of duty at each of the various kinds of work, and is early in his career equipped by practical experience to perform any of the varied duties required of an officer of the Public Health and Marine-Hospital Service. These young officers are sent successively to the large marine hospitals, to the quarantine stations, to the immigration inspection stations, and to the hygienic laboratory, in order to round out their professional training.

The two classes of work are inseparably associated. The splendid clinical advantages of hospitals where over 58,000 seamen are treated annually, and of immigration inspection stations, through which hundreds of thousands of immigrants pass each year, give the young officer an educational experience which will be invaluable to him in his future quarantine work, while the training in the hygienic laboratory, and in the prac-

tical disinfection of ships at quarantine stations, increases his efficiency in the work required in a modern marine hospital.

The service operates 22 marine hospitals, maintains 121 relief stations, where hospital and dispensary treatment is furnished, and treats annually over 58,000 sick and disabled seamen of the merchant marine. Its hospitals and relief stations are located at all the important ports of the United States, including Hawaii and Porto Rico.

The class of cases treated in the service hospitals is necessarily varied. The wide distribution of the hospitals in every climate, from Alaska to Florida and from Porto Rico to Hawaii, insures a wide range of diseases, and even to the hospitals on the seaboard of the United States proper, unusual and interesting tropical diseases are brought by deep-water sailors from all parts of the world.

The surgical work of the service covers a very large field, and if we except gynecology, embraces all branches of surgical work. The average number of operations requiring an anesthetic performed during the year at the United States Marine Hospitals exceeds 1,300.

Beneficiaries of the service are as follows: (*a*) All persons employed on board in the care, preservation, or navigation of any registered, enrolled or licensed vessel of the United States, or in the service on board of those engaged in such care, preservation or navigation. (*b*) Officers and crews of the Light-House Establishment. (*c*) Officers and crews of the Revenue-Cutter Service. (*d*) Seamen employed on vessels of the Mississippi River Commission. (*e*) Seamen employed on vessels of the Engineer Corps of the Army. (*f*) Keepers and crews of the U. S. Life-Saving Service. (*g*) Officers and seamen of vessels of the Coast and Geodetic Survey who are not enlisted men of the Navy. (*h*) Seamen employed on U. S. Army transports or on vessels belonging to the Quartermaster's Department of the U. S. Army who are not enlisted men of the Army.

The service also conducts the physical examination of surfmen of the Life-Saving Service and the examination of the claims of these men for benefits under the act of Congress of May 4, 1882.

By law, service officers are also required to serve on boards of retirement for officers of the Revenue-Cutter Service. By regulation, the service conducts the physical examination of candidates for enlistment, and of officers for promotion, in the Revenue-Cutter Service, and on request officers of this service are also detailed for duty aboard vessels of the Revenue-Cutter Service as surgeons. Examinations of applicants for masters' or pilots' licenses, in which particular attention is paid to the color sense of the applicant, are conducted for the Steamboat Inspection Service.

Examinations of applicants for appointment in the Coast and Geodetic Survey and the Light-House Establishment are also made by officers of the service.

The service maintains at Fort Stanton, New Mexico, a sanitary ranch with an area of 38 square miles for the treatment of tuberculous seamen. Consumptives are removed from the various marine hospitals and sent to this sanatorium at Fort Stanton with a view to their improvement or recovery, and also to remove sources of tubercular infection from the general hospitals. The reports from Fort Stanton Sanatorium are very encouraging, quite a large percentage having recovered and a number leaving greatly improved, in spite of the fact that all classes of cases, the advanced as well as the incipient, are sent there.

The site selected for the sanatorium at Fort Stanton is almost ideal for the purpose. It has an elevation of over 6,000 feet, an annual rainfall of from 14 to 17 inches, and a mean average temperature of 55.6 degrees. Fort Stanton, as its name implies, was formerly a United States Army post, but had been abandoned for several years when turned over to the Marine-Hospital Service. The sanatorium is equipped with ice and cold-storage plants, steam laundry, and a modern system of plumbing, sewage and waterworks. It is the intention of the surgeon general to make the station in time self-supporting. By irrigation, large crops of hay, grain and garden truck are grown. A herd of Jersey and Holstein cattle furnishes abundance of fresh milk and a part of the butter used on the reservation. A herd of range cattle is maintained, is growing rapidly, and in time will supply the station with all the beef used.

The work done by the service in beautifying the grounds, repairing and altering the buildings, and installing the latest scientific equipment and apparatus makes Fort Stanton one of the finest sanatoria in the United States.

PUBLIC HEALTH WORK OF THE SERVICE.

The public health work of the service embraces the maintenance of the national quarantine system, including its insular and foreign service; the enforcement of the interstate quarantine laws and regulations; the prevention and suppression of epidemic disease; publication of the weekly *Public Health Reports* and other publications of professional or scientific interest; the maintenance of a hygienic laboratory for the investigation of disease and matters relating to the public health; and the medical inspection of immigrants.

The national quarantine system of the United States, as controlled by the Public Health and Marine-Hospital Service, may be considered under three heads—domestic, insular, and foreign. The domestic quarantine service consists of a chain of quarantine stations extending from Portland, Maine, to Cape Nome, Alaska, and covering every possible entrance through which disease might be introduced. A few of the stations are still operated by state or municipal authorities, but their number is constantly growing less, and within the past few years the states of Florida, Georgia, Maine and New Jersey transferred their quarantine stations to the Public Health and Marine-Hospital Service.

With regard to the few quarantines still operated by state and local authorities, the Secretary of the Treasury is empowered by law to prescribe the minimum quarantine requirements, and state and local authorities are obliged to observe these minimum requirements, but may impose additional ones if they deem fit. The surgeon general is empowered, either personally or by the detail of an officer of the service, to inspect the maritime quarantine of the United States, state and local, as well as national, for the purpose of ascertaining whether the quarantine regulations prescribed by the Secretary of the Treasury are being complied with. If the state or municipal quarantine authorities should fail or refuse to enforce the minimum rules and regulations prescribed, the President may detail officers to execute and enforce the said rules, and adopt such measures as may be necessary to prevent the introduction and spread of epidemic diseases.

The quarantine stations operated by the service number 60, of which 42 are in the United States proper. A few of these are merely inspection stations, but most of them are large establishments, with hospitals, deten-

tion barracks, disinfecting plants located on piers or floats, boarding steamers, and other requisites of a complete quarantine station.

By insular quarantine is meant the quarantine as maintained by the service in Hawaii, Porto Rico and the Philippines. With the military occupation of Cuba, following the Spanish-American war, the national quarantine system was extended to Cuba, and the Public Health and Marine-Hospital Service instituted and maintained during that eventful period in the history of Cuba an efficient quarantine at Havana and all the subports on the island. This rigid quarantine played no small part in the sanitary regeneration of Havana and other Cuban cities by preventing reinfection from without. The stations were turned over to the Cuban authorities in smooth running order when the American military forces evacuated the island, and with the stations the Cubans received many expert quarantine attendants, disinfectors and acting assistant surgeons, who had been trained by the Public Health and Marine-Hospital Service officers during the period of American occupation.

An act of Congress, approved April 12, 1900, provided "that quarantine stations shall be established in Porto Rico at such places as the Supervising Surgeon General of the Marine-Hospital Service shall direct, and the quarantine regulations relating to the importation of disease from other countries shall be under the control of the Government of the United States. Under this act a complete system of quarantine is maintained by the service at San Juan, Ponce and the other seaports on the island.

The service carried national quarantine to the Hawaiian Islands in accordance with act of Congress approved April 30, 1900, and now maintains a complete quarantine system at Honolulu and the various subports.

By executive order dated Jan. 4, 1900, the service took charge of the quarantine work in the Philippine Islands. The work there has been very heavy, protecting the islands from infection through the intimate commercial relations existing between Manila and Hongkong, Calcutta, Bombay and other badly infected ports, as well as inspecting, and, when necessary, cleansing ships about to leave Philippine ports for the United States. The transactions of the Manila quarantine probably exceed those of any other maritime quarantine station in the world, and so well has this work been done that, although cholera was epidemic in Manila, no case of the disease has reached the United States, and by excluding fresh infection from other Asiatic ports, it has been possible to suppress the epidemic of cholera in the Philippine Islands.

The domestic quarantine work is facilitated by a system of inspection and application of our quarantine regulations in foreign ports. This system is based on the quarantine law of 1893, which provides that no vessel shall enter a port of the United States from a foreign port without a bill of health from the United States consul or a medical officer of the United States Government, and further provides a penalty of $5,000, to be imposed on any vessel coming into an American port without such bill of health. By the same law, the Secretary of the Treasury is directed to frame rules and regulations to be observed by vessels at ports of departure and on the voyage, and the President may detail a medical officer of the government to serve in the office of the consul at any foreign port for the purpose of making the necessary inspection of vessels, to see that the regulations are complied with, to sign bills of health, and to furnish information.

In carrying out these provisions, officers of the Public Health and Marine-Hospital Service have been sent to foreign ports whenever such ports have been considered infected or a menace to the United States. At various times of national danger they have been so stationed in nearly every European and Asiatic seaport of importance, as well as in Mexican, Central American, South American and West Indian ports.

At present, officers of the service are signing bills of health for American-bound vessels in the American consulates, at Naples, Italy; Yokohama, Nagasaki and Kobe, Japan; Calcutta and Bombay, India; Hongkong and Shanghai, China; Tampico, Progresso and Vera Cruz, Mexico; Havana, Santiago, Matanzas and Cienfuegos, Cuba; Bridgeton, Barbadoes; La Guayra, Venezuela; Belize, Livingston, Ceiba, Bluefields, Bocas del Toro, Puerto Cortez and Port Limon, Central America; Guayaquil, Ecuador; Callao, Peru; and Rio Janeiro, Brazil.

The quarantine duties of the Public Health and Marine-Hospital Service are not restricted to maritime quarantine, but, under the interstate quarantine law of 1890 and the quarantine law of 1893, the government has the right to prevent the spread of contagious disease from one state to another.

Section 3 of the act of Congress approved Feb. 15, 1893, requires that if, in the opinion of the Secretary of the Treasury, the rules and regulations of the several states and municipalities are not sufficient to prevent the spread of contagious or infectious diseases from one state to another, additional rules and regulations shall be made by him, which shall be enforced by the state or municipal health authorities, if they will undertake to execute and enforce them; but if they fail or refuse, the President shall execute and enforce the same and adopt such measures as in his judgment shall be necessary to prevent the spread of such diseases, and may detail or appoint officers for that purpose.

Practically the same provisions exist in the act of March 27, 1890; but it is further provided in Sections 2 and 3 of that act that any officer or agent of the United States at a quarantine station, or other person employed to aid in preventing the spread of disease, who shall willfully violate the laws of the United States or the regulations of the Secretary of the Treasury shall be deemed guilty of a misdemeanor, and be subject to a fine of $300 or imprisonment for not more than one year, or both, in the discretion of the court; and that any common carrier, who shall willfully violate such rules and regulations shall be subject to a fine of not more than $500 or imprisonment for not more than two years, or both, in the discretion of the court.

Under this law, regulations have been prepared by the surgeon general under the direction of the Secretary of the Treasury, the enforcement of which is one of the duties of the Public Health and Marine-Hospital Service.

Epidemics of yellow fever and other contagious diseases are always intimately associated with the sea-faring community, and necessarily the medical officers engaged in taking care of sick sailors became familiar with these diseases, which many physicians seldom or never have opportunity of observing. Their stations at seaports placed them at the gateways through which infection must come, and made them pioneers in quarantine ideas and methods. They manifested interest and rendered assistance during epidemics to local phy-

sicians at an early date, and in the Supervising Surgeon's annual report for 1873 exhaustive reports were made by the surgeons in charge at New York, New Orleans, Pensacola, Memphis, Shreveport, Mobile and other ports where yellow fever had appeared. These reports were made in response to an order issued by the Supervising Surgeon and, together with the Public Health Reports, contain the only complete record of yellow fever epidemics in the United States, as well as valuable information concerning modes of introduction, mortality, relation of yellow fever to dengue, and methods of preventing its spread.

The service as reorganized controlled wholly or in part epidemics of yellow fever in the United States in 1873, 1876, 1877, 1878, 1882, 1887, 1888, 1893, 1897, 1898, 1899 and 1903.

During these epidemics the service contended for the abolition of "shotgun" quarantines and unnecessary restrictions on commerce; and while hampered in the earlier outbreaks by state's rights theorists and lack of authority, the service usually succeeded in preventing the spread of the disease and stagnation of commerce. Instead of the absolute non-intercourse with infected towns which was insisted on as soon as yellow fever was discovered, the service substituted the detention camp in which refugees from infected places could be held under observation for the requisite number of days corresponding to the period of incubation of the disease, and then released.

The service has controlled, or assisted in controlling, epidemics of smallpox in Alabama, Arkansas, Florida, Georgia, Texas, West Virginia and other states. When cholera had gained admission to Jersey City in 1893, service officers took charge of the situation, and there was no spread of the disease. The work accomplished by the enforcement of the quarantine regulations of the service in preventing the entrance of cholera into the United States can be illustrated by the following example:

After cholera had been declared epidemic in Naples, three vessels left for the United States—the *Masilia, Weser* and *Cashmere*—and all were made to conform to the regulations. They all arrived at the port of New York, with no cholera en route or at time of arrival. During the same period four vessels, with the same class of passengers and their places of origin similar, in many cases identical, the water and food supply being the same as on the vessels of the United States, left for South America, and all were turned back by the South American authorities and returned to Naples. One, the *Vincenzia Floria*, had about 50 deaths; the *Andrea Gloria*, 90 on the way out; total not ascertained. Another, 84 deaths, and the fourth, 230 deaths from cholera.

The work done by the service in suppressing bubonic plague in San Francisco and yellow fever in Texas is a matter of recent history. Under the direction of service officers, the destruction of rats and the cleansing of Chinatown have been so vigorously prosecuted that no case of plague has been reported since February, 1904.

When the medical officers of the Public Health and Marine-Hospital Service took charge of the yellow fever situation in Texas late in September, 1903, the disease had existed for weeks. Cases were reported rapidly from widely separated points, showing that the disease was disseminated over a comparatively large area, and had obtained a firm foothold in Texas. There was an abundance of *Stegomyia*, thousands of unscreened water-tanks, and other ideal breeding places for mosquitoes. There was an entire lack of police or other authority to enforce sanitary measures, and an epidemic of mammoth proportions was raging in the Mexican town of Nuevo Laredo, immediately opposite, as well as in other towns of northern Mexico.

In the Texas town of Laredo, the Federal officers, after October 1, screened all cases of fever, oiled water-tanks, and other possible breeding places, and disinfected infected premises and surrounding abodes to kill mosquitoes. As a result of these operations, although the population was almost entirely non-immune, less than 10 per cent. contracted the disease, while 50 per cent. of the population of the Mexican town of Nuevo Laredo were stricken with yellow fever.

The vigor of the crusade was not relaxed with the disappearance of the epidemic in the late fall, but the same prophylactic measures were maintained throughout the winter and spring up to the present. Daily inspection of all the houses in Laredo was made during the period of greatest danger, and cases of fever of whatever origin were promptly screened. As a result, there has been no recrudescence of the epidemic, and it is reported that for the first time in many years the people of Laredo are enabled to sleep with comfort without having recourse to mosquito bars.

(To be continued.)

TRAVEL NOTES.

VIII.*

MEDICAL AFFAIRS IN THE HAWAIIAN ISLANDS.

NICHOLAS SENN, M.D.

CHICAGO.

PANGO PANGO, SAMOA, July 21.

The recent annexation of the Hawaiian Islands as a territory of the United States has awakened among us a new interest in their agricultural, commercial, professional and educational status. The wisdom of the consummation of such an act can not be questioned, as the United States has thereby gained a firm foothold in the Pacific Ocean at a point of great strategic importance and the islands have secured for themselves a permanent form of government and the most advantageous commercial relations with the outside world. The inhabitants will be made to feel that

> "In no other state except that in which the power of the people is supreme has liberty any abode, than which nothing assuredly can be more delightful."—Cicero.

The islands have natural resources that must be made available to the natives. The rapid transitions from barbarism to a kingdom and from a kingdom to a republic, and from a republic to a territory of the great republic have left the agricultural and commercial interests of the islands in an unsettled state, which, however, under the new administration will soon be remedied. Since the foreigners have taken the reins of government in their hands prosperity and depression have followed each other at variable intervals of time, and the gains have found their way largely into the pockets of a favored few. It is to be hoped that under the new rule booms and depressions will give way to a steady and more healthful development of the undeveloped resources in which the natives will reap their legitimate share.

*The previous articles in this series have been as follows: "Travel as a Means of Post-Graduate Medical Education," by Dr. Nicholas Senn, July 23; "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr. Lewellys F. Barker, July 30; "Spain and Ramon y Cajal," by Dr. Barker, Aug. 6; "Leprosy in the Hawaiian Islands," by Dr. Senn, Aug. 13; "Italy and the Great Antimalarial Campaign," by Dr. Barker, Aug. 20 and 27; "Father Damien, the Leper Hero," by Dr. Senn, Aug. 27; "A Winter Semester," by Dr. Barker, Sept. 3.

The scenic beauty of the Hawaiian archipelago is exquisite. The islands are of volcanic origin, mountainous, and clad with verdure and intersected by fertile valleys.

HISTORICAL SKETCH OF THE ISLANDS.

It is supposed that these gems of the Pacific Ocean became populated by the Polynesians from the distant Samoa Islands about the year 500 A. D. It is claimed that they were first seen by Juan Gaetano, a Spanish mariner, in 1555, but as he left no record, either at home or on the islands, of his visit their discovery must be credited to Captain Cook, who sighted them in January, 1778, and named them Sandwich Islands, in honor of Lord Sandwich. On landing, the discoverer found them densely populated, the people peacable, hospitable and extremely modest and courteous as they prostrated themselves on his approach and remained in this humble position until he and his escort had passed, a courtesy they always extended to their chiefs. He found no indications of cannibalism, but human sacrifices, as in all the South Sea islands, were frequently

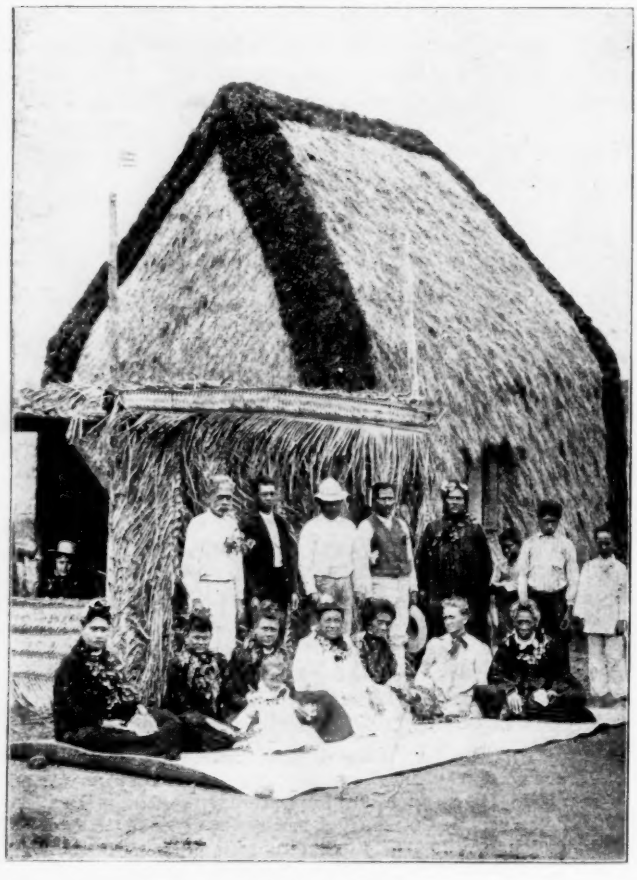


Fig. 1.—Natives and native house.

offered. On his return from a voyage to the west coast of America the next year he was killed by the natives soon after landing at the island of Hawaii, at a place now indicated by a monument to the memory of the intrepid explorer. The killing of Captain Cook was provoked by a drunken brawl of his sailors, which incensed the natives, and their wrath centered on the leader of the expedition. His body was interred, and not eaten, as is so often claimed. The political condition of the islands under the rule of different chiefs was a stormy one, wars between the different islands and tribes being frequent, until the Napoleon of the islands, Kamehameha I.—born 1737, died on the island of Hawaii, 1819—after many bitter wars gained supremacy over all of the islands and ruled them in the capacity of a king. His reign was humane and wise. He abolished human sacrifice and introduced many other reforms most creditable to savage rule. With the death of Kamehameha V the reigning family became extinct, and Kalakaua was elected king. He died at the Palace Hotel, San Francisco, January 20, 1891. His sister, Liliuokalani, succeeded to the throne. By a bloodless revolution she was deposed, and the kingdom became a republic, January 19, 1893. After a number of futile previous attempts annexation was effected by an act of Congress, July 14, 1900. The present administration has already made many radical changes in the government of the islands which can not fail in bringing about a more prosperous future.

CLIMATE.

The Hawaiian Islands enjoy an equable and salubrious climate. It is the land of sunshine and breezes. The northeast trade winds fan the islands 225 to 301 days out of the year, and their cooling and invigorating effects are enhanced by the daily land breezes. Anyone who visits Honolulu for the first time and walks or rides along its well-paved and clean streets any time of the year from 8 a. m. to 5 p. m. may feel the effects of heat and be thrown into a perspiration, when suddenly a land breeze descends from the mountains, cool and refreshing, making the visitor forget that he is in a subtropical region. It is only when the atmosphere sleeps during midday that the stranger feels at all uncomfortable and seeks relief in the shade. The average temperature throughout the year is from 69 to 78 F., extremes, 50 to 90 F.

NATIVE POPULATION.

The Hawaiians are Polynesians, resembling in habits and appearance the South Sea Islanders, who by migration east-

Fig. 2.—Luau feast.

ward from the Malay peninsula progressed from island to island, undergoing certain changes under climatic and other influences, but retaining to a great extent their originality. In intelligence they are far superior to the negro race, to which they have absolutely no resemblance (Fig. 1). Their greatest fault is the inborn indolence. The average native makes no unnecessary effort, mental or physical. They are as indifferent as children. They abhor agricultural pursuits and prefer to live on the waterfronts, where they can secure their fish supply without much effort and amuse themselves with their national sports, swimming and canoe or surf riding. They do not take kindly to the professions, and will only work under the pressure of necessity. Civilization has rather increased than diminished their repugnance to labor.

The natives are generous to a fault, honest, easy going, with a happy disposition, but have an inordinate fondness for flattery. They are very fond of flowers and music, but have little, if any, sense of art. The leis (flower wreath) is found on all festival occasions, and is especially conspicuous at the luau feasts (Fig. 2).

The mortality among the natives since the whites came to the islands has been frightful. When Captain Cook discovered the islands all of them were densely populated, not less than 200,000. In 1836 their number was reduced to 108,579, and at present it does not exceed 39,000. In 1848 one-fourth of the

population was carried off by an epidemic of measles; shortly after another 3,000 died of smallpox. The rapid decrease in the native population and their unwillingness to work creates a field for foreign laborers. In 1898 there were in the islands 30,000 Japanese, 24,000 Chinese and 16,000 Portuguese, and since that time the number of foreign laborers must have certainly rather increased than otherwise, as there has been a considerable influx from Porto Rico since the Spanish-American war.

The effects of civilization on the natives has been harmful as well as beneficial. The first missionaries came to Honolulu in 1820, when it was a village of huts, with 3,000 inhabitants. For a long time they labored in vain, but in 1837 a strong religious movement swept over the islands, and in a very few years paganism had entirely disappeared, at least on the surface. Religion, however, did not change the habits of the people to any extent, for

"Nothing is stronger than custom."—Ovid.

The missionaries have brought these people the inestimable blessings of religion and education, but

"No sooner is a temple built to God, but the Devil builds a chapel near by."—Herbert.

Education in Hawaii is now compulsory, and within the reach of every child. There is no need for any young man or woman to leave the islands for a good general education, as Honolulu has most excellent schools, including a college and high school.

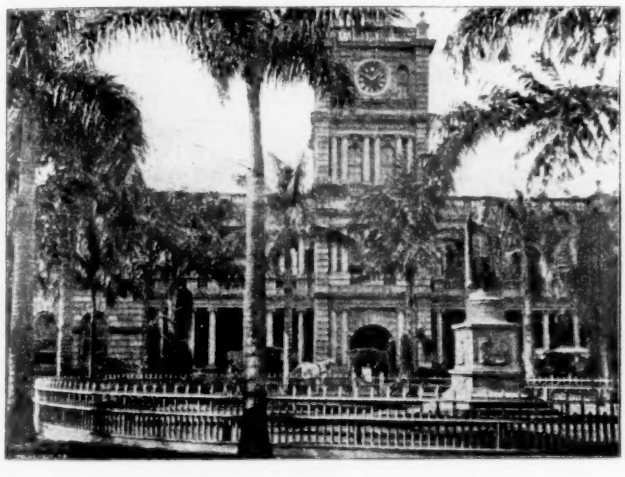


Fig. 3.—The government house, Honolulu.

Churches are numerous, both Catholic and Protestant. The churches are better attended than in the states, and the people pay closer attention to the worship than our own. They are emotional and easily influenced for right and wrong. On the whole, the moral status of the Hawaiian would compare well with that of any of our communities. On the other hand, the whites brought to the islands the devastating infectious diseases which have already destroyed nine-tenths of the population, and which threaten complete extinction. The rum shops and gambling are likewise the fruit of the white man's invasion. Syphilis was unknown until the sailor and the adventurer disgraced the soil of Hawaii. It must not be forgotten that the mind of the aborigines is more susceptible to the reception of vice than virtue, and the Hawaiians are no exception to this rule, so that many of their original natural virtues are on the wane. On the whole the natives have paid dearly for what they received from the white man, as the very soil which belonged to them has largely passed out of their hands, and is now owned by foreigners.

PREVAILING DISEASES.

Since the government of the islands has fallen into the hands of the white population every possible effort has been made to protect the natives against the spread of infectious diseases. The board of health has been watchful and active in their efforts to improve the sanitary condition of the islands, more especially that of the capital city, Honolulu. Like all primitive peoples the Hawaiians have absolutely no appreciation of the importance of hygiene and sanitation, and consequently the surveillance of sanitary matters requires constant watchfulness on the part of the board of health.

The efficiency of the Hawaiian Board of Health will compare well with any of our state boards. It is made up of energetic men, who do their duty fearlessly and without regard to consequences. The present board, recently appointed and organized, is made up of Dr. C. B. Cooper, president, Dr. W. H. Mays, S. K. Kane, Esq., M. P. Robinson, Esq., F. C. Smith, Esq., E. C. Winston, Esq., and Lorrin Andrews, Esq.

The last report, for the six months ending June 30, 1903, contains much valuable material concerning the present prevailing diseases. It is a source of gratification to know from this publication that the reports of the government physicians from nearly every district are unanimous in stating that pulmonary tuberculosis, that has gained such a firm hold on the natives, is not increasing. This report shows that during

Fig. 4.—Queen Emma, consort of King Kamehameha III.

that time occurred 13 deaths from bubonic plague, from typhoid fever, 11; diarrhea and dysentery, 32; pulmonary tuberculosis, 64; beri beri, 6; pneumonia, 39. The great mortality from tuberculosis shows to what extent the disease is still prevailing. Honolulu, being one of the stations on the ocean highway to the Orient, is constantly menaced with the plague; and notwithstanding the great vigilance of the quarantine physician, isolated cases will occur from time to time. The stringent measures resorted to by the board of health the moment a case is discovered have so far protected the islands against an epidemic of this much-dreaded disease. The most severe outbreak of the plague occurred in 1890. The disease was imported from Hongkong, and broke out among the Chinese and Japanese with great virulence, and soon attacked 80, of which number only 14 recovered. A group of suspects of 500 to 700 was quarantined, and in this way the further spread of the disease was checked. After all danger from infection had been passed the barracks were burned. During the entire epidemic only 3 whites were

attacked, and one of them died. The same can be said of cholera. In 1895 cholera, also imported from the Orient, broke out, but thanks to a stringent quarantine of the 80 or 90 cases, 70 per cent. being natives, the disease was promptly stamped out, never extending beyond the limits of Honolulu. In 1880 a severe epidemic of smallpox broke out and proved very virulent in the natives, as more than 10 per cent. of those attacked died.

Compulsory vaccination, as now enforced by the board of health, will prevent all possibility of a similar occurrence in the future. Scarlet fever has never been epidemic, and diphtheria has always been observed, and that very seldom in isolated cases. Syphilis is not so common as formerly, but the hereditary effects are widespread and severe, and present and future generations will be made painfully aware of the truth of

> "Posterity pays for the sins of their fathers."—
> Quintus Curtius Rufus.

Measles has always been the great curse of the primitive races, and it has claimed thousands of the Hawaiian population. The fearful mortality attending this disease is usually attributed to the recklessness of the patients, as they will not keep their bed, but will persist in bathing to find relief from the fever heat. I believe, however, that such imprudence on the part of the whites would not result so disastrously and that the frightful death rate is more attributable to the slight

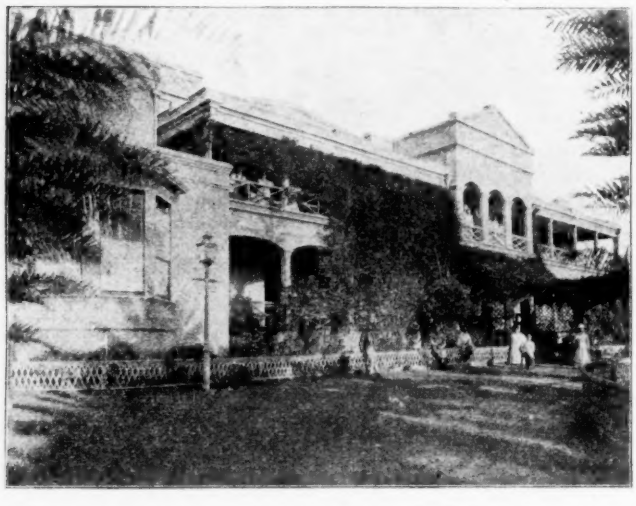


Fig. 5.—Queen's Hospital, Honolulu, established by King Kamehameha III and Queen Emma in 1860.

resistance to the disease on the part of the natives. There ought to be very little, if any, typhoid fever in Honolulu under the present perfect system of water supply and sewerage. The disease occasionally affects small communities where the sanitary conditions are not so completely under the supervision of the government physicians stationed in the 23 different districts. Maui is the island that records the largest number of cases of malaria, 121 cases of dengue and malaria in six months, as stated in the last health report, while Kauai and Molokai report none, and only 3 cases are credited to Oahu and 3 cases of typho-malaria and one case of typhoid. The islands continue to supply the leper settlement with new inhabitants to take the place of the dead. According to the report referred to above the number of lepers at the settlement at present is 888. In six months the population of lepers was increased by 62; at this rate the annual addition to the number of lepers would still be 124. The report also refers to a large number of suspects that remain under observation, and from which a large number will be recruited for the settlement as soon as an absolute diagnosis can be made.

Dr. W. J. Goodhue, a recent graduate of Rush Medical College, has taken up the cause of the Molokai lepers, and is the present resident medical superintendent. He has already introduced many reforms, and is earnestly seeking for a remedy that will cure his patients. He continues the Goto treatment, but has no faith in it. At the suggestion of the board of health he is also experimenting with the "Violet Ray." At present he is encouraged by the results of sodium cacodylate. In his report he says: "In sodium cacodylate, an arsenical derivative of relatively slight toxicity containing over 50 per cent. of arsenic, I believe I have found a remedy of great promise in the treatment of leprosy. My attention was first attracted to the remedy by clinical reports of the success attained with it in the treatment of psoriasis, and in diseases in which the wasting and disassimilation are marked features, although I can not find any account of its ever having been employed in leprosy. It is administered hypodermically, per os, or by rectal enema and it appears to be entirely free from any appreciable irritative effects on the intestinal or rectal mucosa. I have a limited number of patients on this treatment who, so far, after being on the treatment for from two to three months show very decided improvement, and I am only awaiting a large supply of the drug before materially increasing the number of patients when I hope to submit a detailed and favorable account to the board of health of the results obtained."

Before disposing of the subject of leprosy and in reference to a former communication on the same, I will add that during my short visit at Honolulu *en route* I met a number of the most influential physicians, and they were all unanimously opposed to making the whole Molokai Island a leper home. They base their opposition on business principles. They, as well as the business men in the islands, fear that if this were done the outside world would be prejudiced against the islands, and in consequence the value of property would be depreciated and business injured. There is considerable weight to this argument for the present, but as in the course of time, when it becomes generally known that the colonization of the lepers would be limited to the Molokai Island, such objection would no longer apply. Still, this is a matter, as I have stated before, for the territorial and general government to consider and decide.

THE MEDICAL PROFESSION.

The medical profession of the island territory is one of the most desirable things that we have inherited by the annexation, a worthy addition to the large body of practitioners of the United States. It is made up largely of young, energetic men who came here well prepared for their lifework. The door of entrance to the practice of medicine is well guarded. Every candidate must pass a satisfactory examination before a board of examiners appointed by the governor. This board consists of four members, who, to judge from the character of the men who have been licensed, make no farce of the examination, as is only too often done in the states. The question of school is not considered, all must pass the same critical test, and if found qualified they can practice any system they please. There are now about 100 licensed physicians in the islands, about 60 in Honolulu, and the rest scattered in the 23 districts.

Every district has what is called a government physician, who looks after the poor and sanitary matters, and is paid on an average about $1.000 a month for his services. These doctors make a semi-annual report of their work to the board of health. Through these channels the board of health reaches the most distant parts of the islands, and thus insures prompt and efficient sanitation. Among the older practitioners in Honolulu belong Drs. McGrew and McKibbin, and Dr. W. E. Taylor, a retired naval surgeon. Dr. C. B. Cooper is president of the territorial State Board of Health. Dr. F. R. Day, a graduate of Rush Medical College, Dr. C. B. Wood, ex-interne at Cook County Hospital, and Dr. Walter Hoffmann, a graduate of Germany, are the leading practitioners. The sick of the yellow races are cared for by 12 Japanese and 2 Chinese physicians. For the benefit of recent graduates I would say that Hawaii has all the physicians it can well support at present; it is no Paradise or Eldorado for a new beginner. The field is well occupied, as most of the men would be hard to discount, and the present depressed condition of the sugar interests is felt throughout the islands. There are only three or four men in Honolulu who have been there for years and who are very popular, that can put down their annual income in five figures.

Some of the physicians with a smaller income add to it by conducting at the same time some business enterprise.

QUEEN'S HOSPITAL.

Queen's Hospital is the only hospital in Honolulu. It was erected and endowed by the late Queen Emma (Fig. 4) who took a deep interest in charity work (Fig. 5). It is a handsome structure, located in the center of a park ornamented with flowers and tropical trees and shrubs. The palm avenue leading from the street to the entrance of the hospital, is one of the finest I have ever seen. The hospital is managed by a board of trustees, composed of forty members, and represents the most influential men of the city. The hospital has a capacity for ninety patients and the new wing which is nearing completion will accommodate an additional fifty. Four physicians appointed by the board of trustees constitute the staff. Formerly these physicians were salaried, but I presume in consequence of the additional expenditure incident to the building of the new wing, and the depression in the value of the real estate in which the endowment largely consists, the salaries have been withdrawn. The equipments of the hospital are adequate, and the new operating room will fill a long-felt want. The nursing is in the hands of eight trained nurses, who receive a monthly salary of from $40 to $50. Experiments have been made to train native young women, but they failed, so that the hospital is put to the large expense of hiring trained nurses. The indigent native sick are amply provided for, and others pay according to their means.

MEDICAL SOCIETY OF THE HAWAIIAN TERRITORY.

The first attempt to organize the medical profession in Hawaii was made through the instigation of Dr. H. W. Howard, in 1893, when the physicians of Honolulu met from time to time in each other's houses, thus combining social with professional interests. Under the above title a permanent organization has been effected with monthly meetings, at which physicians from the different islands attend, so far as transportation facilities will permit. It is a source of regret that the transactions, so far, have not been published, and, in view of the importance of the subjects that are discussed from time to time, more particularly everything pertaining to tropical diseases and island sanitation, the reports of many of these meetings would make interesting and profitable reading for the medical world.

(To be continued.)

Clinical Reports.

A PROCEDURE FOR FACILITATING THE EXPERIMENTAL TESTING OF RABIES.

A. P. OHLMACHER, M.D.

(From the Pathological Laboratory of the Ohio Hospital for Epileptics.)

GALLIPOLIS, OHIO.

In the course of a considerable number of cases in which our laboratory has been called on to make a diagnosis of rabies in dogs or cattle, I have found it possible to expedite the examination and minimize the danger to the operator by a simple method which is not described, and which is original if not novel. As is well known to those interested in the experimental study of hydrophobia, the material for examination which usually finds its way to a laboratory consists either of the carcass or the head and neck of a dog or other suspected animal. To prosecute the requisite tests one must obtain certain ganglia for making the rapid histologic examination (the Van Gehuchten-Nelis test), and a portion of the brain or cord, preferably of the medulla, for experimental inoculation. Ordinarily the brain of the suspected animal is exposed by piecemeal clipping off the dome of the skull and the arches of the vertebra by means of bone forceps. This process is laborious and dangerous, inasmuch as the operator may injure his hands on projecting spiculæ of bone or be struck by flying osseous fragments. The substitute which I have adopted and successfully practiced consists in transecting the skull, by sawing, after dissecting away the soft parts. For this purpose we are accustomed to employ the modified butcher's saw recently described and illustrated by my associate, Dr. W. H. Buhlig,[1] although any large saw will answer the purpose. The line of saw cut is midway between the orbits and the auditory meatuses at right angles to the cranio-vertebral axis. By means of heavy gloves the hands of the assistant who steadies the head and those of the operator are protected. The sawing is continued until all resistance by bone beneath the skull is overcome; then the bisected portions may readily be pressed apart and the divided brain becomes fully exposed.

With a sterilized spatula the posterior portion of the cerebrum is removed. Then the tentorium is chipped away with sterilized heavy scissors, or bone forceps, though it is possible to dig out the cerebellum and expose the fourth ventricle without doing this. With the dorsal surface of the medulla thus laid bare, it becomes a simple matter to cut out with sterile scissors or scalpel, and forceps, one or more small cubes which constitute the material from which the emulsion for experimental inoculation is prepared. It is our practice to make such an emulsion for immediate use from one portion of the medulla, and to preserve another portion in sterile glycerin for future use. Furthermore, we practice two methods of inoculation in rabbits—the intra-cerebral injection of Leclainche-Morel[2] and the intranasal method of Galtier.[3]

It now remains to obtain ganglia for the Van Gehuchten-Nelis histologic test. I have found the gasserian ganglia to present very excellent and characteristic histologic pictures in dogs affected with street rabies, and have accordingly made it a routine procedure to obtain both these ganglia, each of which, because of its large size, may be split on the flat, one slice being fixed in absolute alcohol or Carnoy's acetic acid-chloroform-alcohol mixture for the rapid preparation of sections, after paraffin imbedding; the other portions being fixed in formaldehyd solution to prepare for immediate frozen sections or for permanent preservation. With the skull bisected as described above, and the brain removed, it becomes a simple matter to dissect out the gasserian ganglia.

Ordinarily it is also desirable to secure one or more intervertebral ganglia to control the histologic test. These are to be obtained by opening the cervical vertebral canal by clipping away the arches of the vertebra in the usual manner, fully exposing the spinal cord and its nerves with their ganglia.

METRORRHAGIA IN TYPHOID FEVER.

WILLIAM HIMMELSBACH, M.D.

SAN FRANCISCO.

Woman, aged 35, unmarried, presented herself at my office with a temperature of 102.5 F. and a history of bronchitis, vomiting and general malaise. She was at once sent to Lane Hospital. In a few days the case was diagnosed typhoid fever. Enlarged spleen, "pea soup" diarrhea and abdominal spots manifested themselves, Widal reaction being negative; finally, with interval of several days, a positive Widal was obtained, thus clinching diagnosis. On January 20 there was a pronounced uterine hemorrhage; prior to this the temperature was 103.5, shortly followed by a drop to 100, with subsequent rising. A careful bimanual pelvic examination excluded any lesion, and close questioning and absence of characteristic odor eliminated the menstrual flow. All efforts to check the hemorrhage were futile. After two days it ceased spontaneously. About the twentieth day the temperature declined to 100.2 F., and suddenly, preceded by a pronounced chill, shot up to 104 F. An examination of the chest demonstrated a pneumonia involving the lower lobe of the right lung.

It took the usual course, and the patient was eventually discharged some six weeks later.

1. General and Special Methods in the Postmortem Examination of the Brain and Spinal Cord. Cleveland Medical Journal, January, 1904.

2. L'Inoculation Intracérébrale du Virus Rabique, Annal. de L'Institut Pasteur, No. 6, 1899.

3. Vera Solomon: Experimentelle Untersuchungen über Rabies, Cent. f. Bakter., Erste Abteilung, No. 3, 1900, p. 76.

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SATURDAY, SEPTEMBER 10, 1904.

BACTERIAL INVASION OF THE BLOOD.

Examination of the blood of patients for bacteria during life is altogether too infrequently practiced in view of its extremely great diagnostic value, and until the last few years it has been almost entirely neglected. In consequence of this our knowledge of the bacteriology of the specific infectious diseases has been largely derived from findings made through cultures obtained at postmortem examinations, and the value of such findings as an index of the conditions that existed during the life of the patient has been open to question. It is known that during the last hours of life the resistance of the blood to infection may be so lowered that an "agonal invasion" by pathogenic bacteria may occur. Again, putrefactive bacteria are liable to spread from the intestines and make their way through the body, causing "postmortem invasion." Hence the actual value of cultures made at autopsy from the heart's blood and the different viscera has been somewhat uncertain. Since so much of our information rests on such results as postmortem examination can yield, the publication of results obtained in 1,200 autopsies under carefully supervised conditions is of no little importance. Dr. M. Simmonds publishes the complete report of the bacteriologic examination of the heart's blood of cadavers made by himself and his assistants in the general hospital at Hamburg from 1900 to 1903, and analyzes them critically in a recent number of Virchow's *Archiv*.[1]

From their results it would seem that such postmortem examinations, if made within forty hours after death, and on a body kept in a cool, dry place, give a much better index of the antemortem condition of the blood than has generally been believed. In such cases as had been examined during life for bacterial invasion of the blood, the findings at autopsy were regularly the same. In the rest of the cases the blood was found sterile or infected with whatever organism would be expected to be present in the disease that caused death. Postmortem invasion of the heart's blood seems to occur very seldom within forty hours after death if the body is kept cold, and the importance of agonal invasion seems to have been exaggerated.

About half of all the bodies examined (48 per cent.), death having resulted from all sorts of causes, were found to contain bacteria in the blood of the heart. As this blood cools down slowly after death, because of its central location, the number of bacteria is quite different from the number in the circulating blood, for they may multiply greatly after death, but otherwise the findings afford accurate information concerning the blood during the patient's last hours. A number of striking facts are developed from these results. First may be mentioned the infrequence of mixed infection, for of 575 positive findings in but 26 were two kinds of bacteria demonstrated, and but once three kinds; in 95 per cent. a single variety of organism was present in pure culture. Of the different forms present, the streptococcus is by far the most important, for it was found 363 times in this series, which represents the ordinary causes of death as seen in a large general hospital, while the pneumococcus appeared but 101 times, colon bacillus 97 times, and staphylococcus 34 times.

In other words, in almost one-third of all fatal diseases as they occur in the population at large, streptococci have entered the blood before death, and presumably played a greater or less part in bringing about the fatal termination. The overwhelming importance of this organism is made very apparent by this study. It appears in the blood in all sorts of conditions, and in many diseases is probably the chief cause of death. Its relation to scarlet fever, which we have discussed in these columns before, is clearly shown, for it was present in 88 of 129 fatal cases, the blood being sterile only in the cases where death occurred in the first three or four days, before pharyngitis had set in, or when death was due to nephritis or other complications after the acute stage of the disease was over. Simmonds agrees with von Dencker that in most cases the malignancy of scarlet fever is due to this organism, but that it has nothing to do with the cause of the disease. Streptococci are but little less often invaders in diphtheria, and here also enter the blood when there are serious lesions in the pharynx and upper air passages. The diphtheria bacilli themselves were not found in the blood once in 68 fatal cases. In measles streptococci were found but four times in ten cases.

Bacillus coli has generally been looked on as a source of error because of its supposed frequent entrance into the blood and tissues shortly before or shortly after death. Simmonds, however, found it in the heart's blood chiefly in diseases in or near to the alimentary canal, and does not consider it likely to be present in the blood after death unless it has entered during the course of the disease. Chronic heart disease, nervous diseases, poisoning and acute tuberculosis cases gave almost invariably no growths from the blood, showing that our ideas of "terminal infection," "agonal" and "postmortem" invasion have probably been exaggerated.

An important observation is that bacteria may enter the blood in large numbers within a very short time after operations and injuries, and later again disappear entirely. Also in peritonitis from appendicitis, etc., the blood was frequently sterile, whereas if the perito-

1. 1904, vol. clxxv, No. 1.

nitis followed an operation the blood was almost always infected, apparently indicating that the wound favors the entrance of bacteria into the blood; this must have much effect on the outcome of the peritonitis.

Many fatal cases occur in which, without the bacteriologic examination of the blood, it would be impossible to determine the cause of death, as in acute septicemias, and many others are easily capable of wrong interpretation. It is not going too far to say that any autopsy made without a bacteriologic study of the blood and the organs is but half made. No matter how clear the anatomic findings may be, there is always a large possibility that the bacterial findings may alter considerably the final conclusions concerning the case.

THE IMPORTANCE OF DROPLET INFECTION IN PULMONARY TUBERCULOSIS.

Some three or four years after the discovery of the tubercle bacillus by Koch, the researches of Cornet demonstrated the great part played by dried sputum in the spread of the disease, particularly the pulmonary form. In fact, the idea that the inhalation of dried sputum was almost the only, or at any rate by far the most common, method of transmission of pulmonary tuberculosis, gained a strong footing in the medical profession. The idea that the tuberculous individual could exhale from the mouth infective material seemed at first an improbability on account of the well-recognized bacteriologic law that bacteria are not detached from moist surfaces. Still, it was known to bacteriologists that bacteria could be detached from moist surfaces in the form of a spray, and it remained for Flügge and his pupils to show, in 1897, that in tuberculous individuals during coughing and even during speaking, a fine spray actually is given off, the watery droplets of which contain tubercle bacilli. As a result of this discovery, Flügge formulated his theory that the inhalation of these droplets, which are found floating in the air for some distance around the patient, is one of the important sources of infection in pulmonary tuberculosis. There can be no doubt that from a purely experimental point of view the researches of Flügge and his pupils uphold the possibility of this mode of infection. Heymann, for example, exposed cover-slips in the near neighborhood of thirty-five tuberculous patients while they were coughing, and was able to demonstrate tubercle bacilli in the cover-slips from fourteen of them. The same observer was able to produce tuberculosis in guinea-pigs by exposing plates in the neighborhood of tuberculous patients and inoculating the animals with washings from the plates. He was also able to produce tuberculosis in six out of twenty-five guinea-pigs by merely leaving them in the near proximity to coughing tuberculous patients.

In a recent study, Saugman[1] thoroughly reviews the literature of this subject, and gives his own conclusions based on an extensive study. He points out very properly that theories like that of Flügge, while they are based on sufficient experimental evidence, are often accepted before they are thoroughly tested under natural conditions. In the case of droplet infection he points out that we have one class of individuals in whom it should certainly occur if there is anything in the theory, namely, physicians in sanatoria for tuberculous patients, and physicians in nose and throat clinics. There is evidence to show that in the latter there is plenty of opportunity for infection. Tubercle bacilli have been isolated in such clinics from head mirrors, from spectacles worn by physicians, and even from the cheeks of the physician. It is apparent, too, that physicians who are daily examining the lungs of tuberculous patients must similarly be exposed to droplet infection. As a basis for his study, Saugman collected statistics from a large number of sanatoria and nose and throat clinics as to the history of the physicians who had been employed in those institutions. So far as the sanatoria were concerned, it was found that many of the physicians were suffering from tuberculosis when they entered as assistants, but of 174 physicians who entered the sanatoria in perfect health, and lived there three or more years, none had died of tuberculosis, and only two had contracted it. The returns from physicians who worked in throat clinics were even more striking, though here a smaller number of returns were obtained. Of 64 physicians working in throat clinics who entered on their work in perfect health, not one had contracted tuberculosis.

Saugman discusses in a general way the reason for this immunity. He naturally finds it difficult to do this on account of our lack of accurate knowledge as to the exact factors which predispose to tuberculosis. On the grounds that some local defect in the lungs must be present (local predisposition) he suggests the possibility of its absence in these cases, but excludes this, as it would be extremely improbable that such a lack of local predisposition would occur in so many individuals. On the same grounds he excludes an immunization due to old healed foci. He thinks it possible that physicians of the class mentioned may become gradually immunized against tuberculosis by daily infection with very small doses of the bacilli, and in this connection he points out that the average droplet given off by coughing only contains from one to twenty bacilli, and that the dose needed to infect is probably thousands of bacilli. His conclusions appear conservative; he merely states that his study shows that the droplet infection probably plays but little part in the infection of adults in health. He fully realizes that the same may not be true of children or those weakened by disease, and he also recognizes the fact that physicians, particularly those living in sanatoria, are under exceptionally favorable hygienic conditions. We need hardly point out that among the poor and uncleanly, in crowded tenement districts, droplet infection may play a much more im-

1. Zeitschrift für Tuberculose, vol. vi, No. 2.

portant rôle. In any event, the results of Saugman's studies, as he himself insists, should not cause us to abate one jot our precautionary measures.

ACID INTOXICATION.

It is said that acetone in small quantity appears normally in the urine, but the amount becomes pathologic at times in connection especially with certain disorders of metabolism, of which diabetes is the most familiar example. Of itself it gives rise to no symptoms, but its presence is often associated with that of other substances, especially diacetic acid and beta-oxybutyric acid, and when abnormal phenomena make their appearance they are probably due to the latter. All of these are probably the results of some derangement in fat-metabolism. The development of stupor, followed by coma and death, after operations on patients, particularly diabetics presenting acetonuria, has been observed rather frequently, while the occurrence of acid intoxication under various conditions had been earlier recognized.

Drs. E. G. Brackett, J. S. Stone and H. C. Low[1] report a group of cases presenting the following symptom-complex: Vomiting, associated with collapse; weak and rapid pulse; absence of fever until just before death; cyanosis in the fatal cases, with extreme dyspnea; apathy and stupor alternating with periods of restlessness at first, but in fatal cases gradually deepening into coma and death; and the presence of acetone on the breath and in the urine. In six cases the symptoms developed in the sequence of operation, while in seven they set in independently of any operative procedure. Of the former three and of the latter one died. The children in whom the symptoms were severe exhibited a high-strung, nervous temperament. The symptoms were in general more severe in those operated on than in those not submitted to operation.

The first symptom to attract attention was the vomiting. The vomitus was always bile-stained, becoming dark but never bloody. Restlessness was at first associated with the vomiting, but occasionally there was a certain amount of apathy either preceding or alternating with periods of restlessness. The milder cases presented a varying degree of restlessness, while in the severer cases collapse was marked. In some of the severe cases cyanosis became pronounced in a short time. Recovery occurred in no case in which cyanosis was marked. As the color changed restlessness was followed in some instances by delirium, but in all of the fatal cases stupor gradually supervened, becoming more profound and gradually passing into coma. In the fatal cases death resulted in from twelve to thirty-six hours after the onset of the symptoms, generally after about thirty hours. Death seemed to be due in some cases to lack of oxygen. Postmortem examination in several cases disclosed fatty degeneration of the liver and of the muscles. Acetone and diacetic acid were found in the urine in practically all of the cases in which they were looked for. In a number of cases muscular atrophy was present.

In the line of treatment the administration of sodium bicarbonate by mouth or in enemata and infusion of large amounts of saline solution proved most serviceable. The etiology and pathology of the condition are obscure, the only satisfactory explanation attributing the symptoms to some derangement of metabolism giving rise to acid intoxication.

1. Boston Medical and Surgical Journal, July 7, 1904, p. 2.

MORAL INSANITY.

The line of demarcation between sanity and insanity, like that between health and disease, is sometimes so nebulous that it becomes exceedingly difficult to decide where the one ends and the other begins. It is not a matter of wonder, therefore, that differences of opinion should arise in this connection, particularly when the question of responsibility is raised. There has been not a little discussion as to the existence of so-called moral insanity as an entity, but despite the objections to its recognition, the disorder has retained its place in mental nosology. Perhaps the term moral imbecility would be preferable. The affection must be looked on as a degenerative one of congenital origin. The general intellectual functions may be unimpaired, while the moral sense is lost in greater or lesser degree.

What must be considered one of the most remarkable instances of moral or criminal responsibility on record has been reported by Dr. H. R. Stedman[1] in the case of an unmarried professional nurse, 45 years old, who, there was sufficient ground for believing, had fatally poisoned twenty persons, and on several occasions had made attempts at incendiarism. She also twice took poison with suicidal intent, assigning jealousy as the reason for her act. Her favorite method of administering the poisons employed was in Hunyadi water or by enema, combining the drugs in kind and proportion so that the resulting effect was an unusual and perplexing set of symptoms. There were no delusions of enmity or persecution. The patient was examined by a commission of three physicians, appointed by the court as the result of an arrangement between the prosecution and defense, and the conclusion was reached that she was insane and irresponsible at the time of the homicides, without hope of recovery. The patient was accordingly declared not guilty by reason of her insanity, and she was thereon committed to a state hospital for the insane for the remainder of her life. During the trial the attitude of the woman is described as more that of an interested spectator than that of a prisoner on trial for her life.

For a year or more the patient did well, but subsequently developed delusions of persecution and poisoning, with hallucinations of hearing, and her nutrition became greatly impaired. Her father had been an eccentric man, who had placed her and her sister in a foundling asylum. One of her sisters was a chronic dement

1. Boston Medical and Surgical Journal, July 21, 1904, p. 57

another led a dissolute life. As a girl the patient exhibited incorrigible propensities for deceit, falsehood and trouble-making. She began her career as a nurse at the age of 28, attending successively two training schools, but being dismissed from both before graduation. She was recognized to be queer and peculiar. In some instances she secured the removal of patients not agreeable to her by making false charges against them, and in other instances she kept favorite patients in the hospital by reporting the presence of fictitious symptoms.

ARTERIOSCLEROSIS.

The subject of arteriosclerosis is one of perennial interest, and one concerning which, in spite of the immense amount of study which has been devoted to it, much yet remains to be cleared up. It has recently been discussed in Germany before the Congress for Internal Medicine,[1] and in this country before the Pathological Society of Philadelphia[2] and the American Medical Association.

The paper of Marchand before the German congress, which discusses the subject in its wider pathologic aspects, considers under the term arteriosclerosis all those changes in the arteries which lead to a diffuse or nodular thickening of the wall, especially of the intima, in the development of which degenerative, sclerotic and calcareous changes occur. This conception necessarily excludes pure hypertrophy of the media, and syphilitic processes occurring in the medium sized and small arteries. The essential factor which is at the bottom of all cases of arteriosclerosis according to this author is a mechanical one, viz., an over filling, or temporary or permanent increase of the arterial pressure, which may be due to local injuries, or to general processes in the form of intoxications, general nutritional disturbances, or similar factors. The primary change in the vessel walls in all of these cases is in the elastic coat, and consists of a weakening of this. The later changes of a degenerative and sclerotic nature are essentially secondary and compensatory in character. Coplin's study, which covers essentially the same ground as Marchand's, leads him to practically the same conclusions; he also lays great stress on the fact that the disease is primarily a disease of the elastica.

The importance of increased arterial tension as a causative factor in arteriosclerosis is forcibly brought out by the experimental studies of the younger Erb, which completely confirm the similar studies published by Josué.[3] Erb was able to produce experimentally lesions which essentially resembled those of human arteriosclerosis by frequently injecting into the circulation of animals small doses of adrenalin. Coplin has been able in a number of cases of human arteriosclerosis to find lesions in the adrenals, and this fact, together with the occasional observation of increased arterial pressure in certain adrenal lesions, such as adenomata, should lead to a much more extended study of these glands in arteriosclerosis. Even at the present time certain writers have suggested that arteriosclerosis is always of adrenal origin, and that toxic substances which were supposed to produce vascular lesions directly do so rather by their indirect action on the adrenals which they stimulate and cause to hypertrophy.

Inasmuch as adrenalin is being advocated in an increasing number of conditions, and particularly in various forms of hemorrhage, these observations should lead to a care in the selection of cases in which it is used. While its temporary use in acute illnesses like typhoid fever seems perfectly justified, it would seem inadvisable to use it for any length of time, particularly as the liability to arterial change which follows this disease is now well recognized. It can be imagined that where the hemorrhage is due to, or accompanied by some subacute or chronic vascular lesion, the use of adrenalin might be contraindicated. Our knowledge of the action of this substance at present covers almost entirely its action on normal vessels, and only clinical experience will certainly define its dangers. In any event caution in the use of this remedy seems indicated.

1. Münchener med. Woch., Nos. 17 and 18, 1904.
2. Proceedings of the Pathological Society of Philadelphia, May, 1904.
3. Presse Médicale, Nov. 18, 1903, No. 36.

THE ABOLITION OF THE BREAD TAG.

It is reported in the daily press that the United Master Bakers, in their recent convention at St. Louis, have decided to discontinue the practice of pasting labels on loaves of bread. This is an eminently rational decision. It is apparently a small matter at first sight, but the unhygienic possibilities of the practice readily suggest themselves. It is not a pleasant thought that the union label, pasted on an important article of food, has been stuck there by the spittle of the workman, but it is a probability that can not very well be ignored. We all of us have to eat dirt more or less throughout our lives, but this does not imply we should be compelled to do so needlessly. The bakers' decision is a commendable one, and shows that they are properly awake to hygienic demands.

THE PRESENCE OF BACTERIA IN THE VISCERA OF HEALTHY ANIMALS.

There has been not a little discussion as to whether the solid viscera of healthy animals contain bacteria or not, and the evidence bearing on this question has been most contradictory. There are, however, so many opportunities for contamination and loopholes for error in investigations along this line that the reported results can not all be accepted without reservation. A valuable contribution to the data on this subject has recently been published by Dr. H. deR. Morgan,[1] who made a careful study of the viscera of rabbits, cats and dogs with the strictest precautions, and found micro-organisms in 26 per cent. of the examinations. The bacteria, however, were those ubiquitous in the atmosphere, and

1. Lancet, July 2, 1904, p. 21.

there is reason to believe that their presence was accidental, the germs or their spores probably adhering to the moist surface of the viscera during their exposure in the course of the postmortem examination. The correctness of this latter suspicion was demonstrated by exposing sterilized viscera under like conditions, and obtaining the same micro-organisms on culture. Accordingly, the conclusion is definitely reached that normal organs do not contain pathogenic bacteria, while the presence of non-pathogenic bacteria in cultures is probably due to accidental contamination.

TUBERCULIN IN TREATMENT OF NON-TUBERCULOUS AFFECTIONS.

A recent communication[1] from Maragliano's clinic at Genoa calls attention to the constancy of a great increase in the number of red corpuscles in case of a small, rather torpid tuberculous focus somewhere in the body. These findings suggested the possibility that the minute amounts of antibodies, generated in the course of such an inactive process, might be the cause of the hyperglobulia observed. This assumption was sustained by the constantly positive findings when guinea-pigs were injected with small, repeated doses of tuberculin, the result invariably being a pronounced hyperglobulia. These findings further suggested in turn the possible application of the measure in treatment of all kinds of anemia and chlorosis, not necessarily of a tuberculous character. Tuberculin in the minute, "refractory" doses employed is harmless, and is being given a thorough trial now in the clinic; the results seem to be promising, although it is too early for a definite conclusion to be reached. The subjects are patients with blood impoverished from any cause. Hyperglobulia may co-exist with pallor, which is probably the reason why so little attention has been paid to the hyperglobulia of incipient tuberculosis, or it may be due to the fact that by the time the patient reaches the physician this early stage of hyperglobulia may be past. The induced hyperglobulia may be one of the factors co-operating in the benefit that has followed tuberculin treatment of tuberculosis. Swan's article on the "Blood in Tuberculosis," in THE JOURNAL, March 12, 1904, is cited in the communication, but Swan's patients had passed beyond the phase of a merely torpid focus.

CONTRACT PRACTICE.

From time to time THE JOURNAL has editorially called the attention of its readers to the evils of contract practice and the need of eternal vigilance on the part of the profession to prevent the installation of a condition of affairs in this country similar to those existing in other lands, like Great Britain, Germany and Australia. It has seemed to us at times that the medical press in this country was not sufficiently alive to these evils which have already appeared in some sections. In a recent issue of the *New York Medical Journal*, Dr. Burnside Foster of St. Paul calls attention to the need of action on the part of the profession, and points out the dangers from already existing contract practice in certain parts of the country. Dr. Foster shows that the remedy for the condition rests with the profession itself, and that only by its united action can its own further exploitation be stayed. We need not here repeat the arguments against this form of practice; they should suggest themselves to every thinking physician. We have the advantage of the experience of our brethren in other countries, and it would be a pity if we should have to learn in the same hard school. Inaction on our part, however, will inevitably lead to this result. Every form of contract practice proposed or already existing should have the most rigid scrutiny of the profession. When cabinet ministers, as is alleged is the case in Australia, take advantage of membership in so-called benevolent societies to sweat the medical profession, we can see how far the evil may progress. There is need of some addition to the published ethical principles as regards this point, and it is a good sign that in Minnesota and in a few other states they are already alive to the situation.

OPTIMISTIC PROPHESYING.

We are somewhat accustomed to optimistic statements in medical literature. The advances in medicine have been so marked in late years that it seems rational to some people to anticipate in the near future results that a few years since would have seemed impossible, if not miraculous. Thus we hear the extermination of tuberculosis confidently foretold, and some are even ready to prophesy that all disease and physical afflictions, excepting surgical accidents, will be abolished by the triumphant advance of medical science. One of the latest of these prophets, in Great Britain, is reported to have claimed that all infection will be done away with, all noxious bacteria exterminated, and men in a hundred years from now will live a century, death being a sudden collapse from a painless exhaustion of the organs. Even "a general flavor of mild decay," which would be due to the continued action of hostile bacteria, is apparently not included in his consideration of the subject. We can admit that a great deal has been done toward conquering disease, and that some of the most formidable scourges of mankind have been robbed of their terrors, and that the advance of medicine along this line still continues. We must remember, however, that death and decay are as natural laws as birth and growth, and that with all our knowledge of the causes of disease and its prevention, there yet remain many lacunæ. Some diseases are conquered, others seem likely to conquer us. It is not long since that a leading surgeon pointed out that at the present rate of increase of cancer mortality it would soon be the prevalent cause of death, at least in certain sections of the country. This is not a pleasant prospect, and there are other disorders of which similar things may be said. Our discovery of the microbe of a disease does not necessarily insure our ability to prevent or conquer it. Pfeiffer's bacillus is hardly, if at all, less malignant at the present time than it was when grip first became epidemic. Diseases of the heart and nervous system show few or no signs of decrease, and new disorders appear from time to time. We would not discourage a rational optimism, but a reasoned ap-

1 Gazzetta degli Ospedali, vol. xxv, No. 70, June 12, 1904.

prehension of possible evils is safer than rainbow chasing in medicine, at least as a guide to conduct. Certainly it is far better than any reliance on presumptious prophesyings, no matter by what high authority. Our profession will not be out of business for some time yet.

Medical News.

CONNECTICUT.

Medical Examiner.—Dr. D. Chester Brown, Danbury, has been appointed medical examiner of Sherman, vice Dr. John N. Woodruff, Sherman, deceased.

Home and Abroad.—Dr. Thomas H. Welden, first selectman of South Manchester, returned from Europe, August 22.——Dr. Anthony J. Hill, Torrington, sailed for Queenstown, August 25.—Drs. Edward M. McCabe and Stephen J. Maher, New Haven, sailed for Germany, September 1.

Infectious Morbidity.—During July the State Board of Health received reports of 103 cases of measles in 26 localities; 65 of scarlet fever, in 22 localities; 5 of cerebrospinal fever, in 3 localities; 63 of diphtheria, in 25 localities; 31 of whooping cough in 9 localities; 61 of typhoid fever, in 26 localities, and 27 of consumption in 17 localities.

July Mortality.—The total reported mortality for July was 1,405; 276 more than for the previous month, 9 less than for July, 1903, and 6 less than the July average for the five preceding years. The mortality was at the annual rate of 17.6 per 1,000, and 32 per cent., or 450 deaths were due to infectious diseases. Nervous diseases caused 133 deaths; violence, 102; consumption, 100; heart disease, 99, and pneumonia, 38.

ILLINOIS.

Peru Man Not a Leper.—A conclave of Peru and La Salle physicians, aided by an expert from Chicago, has decided that Mathew Nubraski, supposed to be suffering from leprosy, was suffering from a skin disease of an entirely different nature.

Fined, But Escapes.—Father Anselme, the so-called "Quaker doctor," who has been vending patent medicine in Moline, and was charged with practicing medicine without a state license, was found guilty and sentenced to pay a fine of $100 and costs. The defendant took the precaution to cross into Iowa before the verdict was announced.

Milk Sickness Reappears.—The State Board of Health, on account of the reappearance, after a lapse of many years, of what used to be known as "milk sickness," and was supposed to be contracted by drinking the milk or eating the flesh of cows that had the "staggers," is continuing a study of the disease, and is accumulating information regarding it from the four counties in which it has appeared. Four of the cases have proved fatal.

Personal.—Drs. James L. Taylor and B. Barret Griffith, have been appointed members of the Springfield Board of Health.—Dr. Frank R. Wheeler, Auburn, is seriously ill from overwork, and has gone to Denver.——Dr. Charles N. Palmer, Clyde, was robbed of $180, while leaving an excursion steamer in Chicago.——Dr. John N. Nelms, Taylorsville, was thrown from a bicycle, August 27, fracturing his right malar bone, and bruising his head and shoulders.

Chicago.

Money for St. Luke's.—By the will of Mrs. J. H. McVicker $10,000 is devised to St. Luke's Hospital.

Deaths of the Week.—During the week ended September 3, 491 deaths were reported, 19 more than in the previous week, an annual mortality rate of 13.27 per 1,000. Violence caused 69 deaths; acute intestinal diseases, 86; consumption, 61, and heart diseases, 32.

Hospital Dedicated.—The Washington Park Hospital, at 6010 Vincennes Avenue, was formally dedicated, September 5. Dr. Carl O. Young is chief of staff, and the staff includes Drs. John B. Murphy, Frank Billings, Archibald Church, William A. Evans and Alfred Hakanson.

August Mortality.—The annual death rate for August was 12.93 per 1,000, 18.6 per cent. lower than the average rate of the past decade. The most important decreases were in deaths of children under 5, and especially in the contagious diseases of childhood, and in impure water diseases. The principal cause of death was acute intestinal disease, with 467 deaths; consumption caused 256 deaths; Bright's disease, 125 and pneumonia, 116.

Statistics of the Summer Quarter.—There were 5,820 deaths in June, July and August, equivalent to an annual mortality of 11.95 per 1,000. This is a reduction of 15.6 per cent., as compared with the summer quarter of 1903. The greatest reduction, 502, was among those under 5 years of age—a decrease of nearly 22 per cent. Among the important causes of death showing an increase were: Apoplexy, 5; Bright's disease, 21; consumption, 32; suicide, 13, and other forms of violence, 33. Among those showing a decrease were—the acute intestinal diseases, 168; bronchitis, 69; cancer, 11; convulsions, 24; diphtheria, 59; heart diseases, 13; measles, 52; nervous diseases, 167; pneumonia, 150; typhoid fever, 29; scarlet fever, 48; smallpox, 6; sunstroke, 20, and whooping cough, 9.

INDIANA.

Kokomo Hospital Gets Farm.—Mrs. Anna Cage, Kokomo, who died recently, bequeathed a farm valued at several thousand dollars to the Kokomo Hospital Association.

Smallpox.—Ten additional cases, with two deaths, are reported from Goshen. The spread is charged to the negligence of physicians who diagnosed the disease as varicella.

Fined for Illegal Practice.—At the instance of the State Board of Medical Registration, Le Roy Rogers, Kewana, who held a license prior to the passage of the present law, but failed to have it renewed, was prosecuted, found guilty, and fined.

Personal.—Dr. John W. Younge, Fort Wayne, has returned from the Holy Land.——Dr. John N. Hurty, Indianapolis, has been appointed a member of the committee of awards in the Medical and Hygienic Department of the Louisiana Purchase Exposition.——Dr. Warren R. King, Greenfield, has been elected surgeon-general of the Grand Army of the Republic.——Dr. Andrew J. Chittick, Burlington, is seriously ill from septicemia.

IOWA.

Waverly Hospital Dedicated.—The new hospital presented to Waverly by Abraham Slimmer, was formally dedicated, August 28.

Culture Stations To Be Established.—Culture stations for the investigation of contagious infections and transmissible diseases were expected to be ready for work September 1. The appropriation of $5,000 makes it possible at first to undertake only the diagnosis of diphtheria, typhoid fever, tuberculosis and rabies. Examinations are made at the state university, free of charge.

Must Furnish Statistics.—The new law regulating the gathering of vital statistics which will be in effect as soon as the blanks are available, provides that all births and deaths shall be reported to the local health officers. The law does not provide for payment for such reports, and there is a strong undercurrent of opposition among the profession, which thinks that the state should pay for work done.

Faculty Changes.—Dr. Thomas J. Maxwell, Keokuk, has resigned the chair of surgery in the Keokuk Medical College, College of Physicians and Surgeons, and Dr. Charles E. Ruth has been elected to fill the chair. Dr. John R. Maxwell succeeds Dr. Ruth as professor of anatomy.——Drs. Paul Shewkana, London, and Aufin Egdahl of Johns Hopkins, have been named as instructors in bacteriology and pathology in the University of Iowa.

Medical Staff Assigned.—The following assignments of medical officers have been made: For duty with Fifty-fifth Infantry—Major J. Fred Clarke, Fairfield, surgeon; Capt. Wilbur S. Conkling, Des Moines, and Capt. Elliot R. King, Arion, assistant surgeons. For duty with Fifty-sixth Infantry—Major Donald Macrae, Jr., Council Bluffs, surgeon; Lieut. Pierre McDermid, Fontanelle, assistant surgeon. For duty with Fifty-third Infantry—Major Charles S. Grant, Riverside, surgeon; Capt. E. L. Martindale, Clinton, and Lieut. John C. Hancock, Dubuque, assistant surgeons. For duty with Fifty-fourth Infantry—Major D. S. Fairchild, Jr., Clinton, surgeon; Capt. David A. Jay, Eldon, and Lieut. Albert B. Deering, Boone, assistant surgeons.

KANSAS.

Kills Assailant.—Dr. E. P. Chace, Shawnee, shot and killed John Cahill, who attacked him, after threats to kill.

School Buildings Fumigated.—The sanitary officer of Leavenworth has fumigated all the school buildings in the city in

order that they may be in the best possible sanitary condition when school opens on September 9.

Smallpox and Scarlet Fever.—During the last quarter there were 299 cases of scarlet fever and 226 cases of smallpox in the state. Saline County led in smallpox cases, with 35 cases, Labette and Cherokee counties having each 31. Barton County had 59 cases of scarlet fever, and Jefferson County 40 cases.

New State Board.—The governor, on August 29, announced the following appointments to the State Board of Health: Dr. G. E. Locke, Holton, reappointed; Dr. Herbert M. Bentley, Sterling, vice Dr. John M. Minick, Wichita, deceased; Dr. Charles Lowry, Topeka, vice Dr. Abraham S. Gish, Abilene; Dr. B. J. Alexander, Hiawatha, reappointed, and Dr. Joseph B. Carver, Fort Scott, reappointed.

MARYLAND.

Faculty Meets.—The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland will be held at Ocean City, September 9 and 10.

Supplies Hospital Corps for Maneuvers.—As the First Maryland Regiment has no hospital corps a detail will be sent to Manassas for it from the Fifth Maryland, under Capt. S. Griffith Davis, assistant surgeon of the latter regiment.

New Building for Asylum.—A new building will be added to the group at Spring Grove Asylum for the Insane, near Catonsville, the work on which will begin October 1. It will contain administration rooms, apartments for nurses and patients, operating rooms and hydrotherapeutic plant. A training school will be established for men and women nurses.

Baltimore.

Typhoid in August.—There were 29 deaths from typhoid fever in August, and 207 new cases were reported, against 146 in August, 1903.

Bequest to Hospital for Nurses.—By the will of Mrs. Anna M. Gill of Paradise, Baltimore County, $4,000 was devised to the trustees of the Johns Hopkins Hospital, to be used for the benefit of the nurses of that institution.

Insane Removed.—On August 31 forty patients were removed from the insane department of Bayview Asylum—the city almshouse—to Springfield Asylum for the Insane, Sykesville, to relieve the congestion in the former institution.

Crim Bequest Valid.—The Crim bequest has been declared valid in the courts. By the will of the wife of the late Dr. William H. Crim the University of Maryland School of Medicine was bequeathed about $40,000 to found a William H. Crim professorship.

Personal.—Dr. Delano S. Fitzgerald is at Manhattan Beach, N. Y.——Dr. Harry T. Marshall has been elected pathologist at the Baltimore Medical College, vice Dr. T. Robert W. Wilson, resigned, to devote himself to private practice.——Dr. Stewart Paton will spend the winter abroad.——Dr. Augustus G. Pohlman has resigned his instructorship in anatomy at Johns Hopkins University to accept an appointment as assistant professor of anatomy in the University of Indiana, Bloomington.

New House Staff.—The following graduates of last June entered on their duties on the house staff of the Johns Hopkins Hospital August 31: John Herbert Carr, Josephine Hemenway, Julius A. Caldwell, Jr., Jewett Villewy Reed, Ernest Sachs, Walter V. Brem, Jr., Wilfred H. Mainwaring, Herbert Ziegler Griffin, Orville Hickok Schell, Harry S. Greenbaum, Robert G. Washburn, Herman W. Marshall, Benjamin T. Terry, Robert Bennett Bean, G. Lane Taneyhill, Jr., William J. Ricker, Charles M. Remsen, Maurice Buford Bonta, De Witt B. Casler, and James F. Morrison.

New Surgical Building Dedicated.—The new surgical building at the Johns Hopkins Hospital will be dedicated October 5. The program will consist of addresses by several prominent American and foreign physicians, and a large number of eminent medical men, including those gathered at St. Louis this month, will be invited to attend. After dedication it will be inspected and a luncheon will be served. In the afternoon a bronze tablet erected to the memory of Dr. Jesse W. Lazear, who lost his life from yellow fever in Cuba while investigating that disease there in 1900, will be dedicated in one of the amphitheaters. The building cost about $150,000, is of brick, and four stories high. Sanitation and ventilation are important features. All the floors are of tiles, every room and hallway used by patients being also wainscoted with glazed white tiles. The stairways are of marble and iron, and there are toilet rooms and baths on each floor. A surgical amphitheater, 40 feet high, also has extensive tiling, marble work, and a hall with wide lights composed entirely of wired glass. There are a number of consultation rooms. On the first floor will be emergency rooms for accident cases, minor operation rooms, and the orthopedic department. Two large vaults of brick and cement are provided for surgical records.

NEW JERSEY.

Bequest to New York Academy.—The late Dr. Albert W. Warden of Union Hill, West Hoboken, in his will, bequeathed $1,000 to the New York Academy of Medicine.

Personal.—Dr. Theodore G. Davis, Bridgeton, left, September 6, for California, where he will spend the winter.——Dr. William H. Westcott, Berlin, was painfully injured by a collision with an automobile, September 2.

Staff for Sister's Hospital.—The hospital committee of the new Sister's Hospital, Elizabeth, has appointed the following staff: Drs. John P. Reilly, Victor Mravlag, Stephen T. Quinn, Thomas E. Dolan, and James S. Green.

Fighting Glanders.—The State Board of Health and the Jersey City Board of Health are endeavoring to stop the importation into the state of glandered horses. Last week five horses suffering from this disease were discovered in Hudson County.

New Hospital for Orange.—Buildings and grounds have been purchased for the establishment of a new hospital in Orange. The hospital will be equipped as soon as possible, and will be opened about November 1. It will have about thirty beds, besides a maternity ward and children's wards. The institution is to be known as Mount Carmel Hospital, and will be non-sectarian.

NEW YORK.

Buffalo.

Parmenter Resigns.—Dr. John Parmenter has resigned the chair of anatomy and the secretaryship of the faculty of the medical department of the University of Buffalo, retaining, however, the professorship of clinical surgery. Dr. Herbert U. Williams has been promoted from the associate to the governing faculty, and retains the title of professor of pathology and bacteriology. Dr. Herbert M. Hill has been appointed secretary of the faculty.

Personal.—Dr. Grover Wende has sailed on the *Deutschland* to attend the International Dermatological Congress in Berlin.——Dr. Frank W. Hinckel has returned from Europe, where he went as delegate to the International Otological congress at Bordeaux.——Dr. W. Scott Renner is soon expected home from his trip abroad.——Dr. Marshall Clinton has returned from the Adirondacks.——Dr. David Wheeler has gone to the Adirondacks.——Dr. Irving W. Potter and Dr. George A. Himmelsback have returned from Europe.——Dr. Edward Clark, assistant health commissioner, is convalescing from his recent attack of multiple neuritis.

New York City.

Department of Health Needs More.—The health department has sent to the board of estimate a request for $2,123,500 for its 1905 allowance, an increase of $577,656.52 over the 1904 allowance.

Smallpox on Liner.—On account of a case of smallpox on the *Campania*, she was detained over night at quarantine, the patient was transferred to the Kingston Avenue Hospital, Brooklyn, and 26 passengers were sent to Hoffman Island for observation.

Personal.—Dr. L. Duncan Bulkley sailed for Bremen August 30.——Dr. McGeary, ambulance surgeon at St. Vincent's Hospital, had a narrow escape from serious injury while riding on the ambulance when it collided with a trolley car.——In a collision between a trolley car and his carriage, Dr. Martin W. Auspitz fractured an arm and a leg, and his carriage was demolished.

Contagious Diseases.—In the week ended August 27 there were reported to the sanitary bureau 371 cases of tuberculosis, with 147 deaths; 244 cases of diphtheria, with 25 deaths; 140 cases of typhoid fever, with 27 deaths; 70 cases of measles, with 4 deaths; 48 cases of scarlet fever, with 2 deaths; 3 cases of varicella and 17 deaths from cerebrospinal meningitis.

Hospital Notes.—William H. Crawford bequeathed $10,000 to the New Amsterdam Eye and Ear Hospital.——Efforts are being made to raise funds for the reopening of the pavilion for contagious eye diseases of the Eye and Ear Infirmary, which

has been closed since March 1.——The new Beth Israel Hospital is to be enlarged by the remodeling of a six-story tenement house near by, to which it will be connected by bridges.——All the city hospitals are so crowded that the authorities view the approach of winter with much apprehension. The public hospital accommodations of this city are totally inadequate.

More **Typhoid.**—According to the recent canvass made among private physicians there are now more than two hundred cases of typhoid fever in the Bronx. Such a large number is causing Bellevue and the allied hospitals great trouble because of the present crowded condition of these institutions. Dr. Gregory has ordered the erection of a temporary hospital on the grounds of the Fordam Hospital, which will provide for about a dozen typhoid patients. The cases are scattered and due to local contaminations, and, therefore, the health department is not alarmed and does not fear a general epidemic.

PENNSYLVANIA.

Good **Results.**—Oliver B. Simmons, in charge of the South Mountain Camp Sanatorium for the care of consumptives on the state forestry reservation at Mont Alto, reports that since the opening of the sanatorium in June, 1903, 65 patients have been received, and that of this number 50 per cent. have returned to their homes apparently totally cured; and 33 patients are still under observation in the sanatorium. These statistics are practically in accord with those reported from the White Haven Sanatorium.

Philadelphia.

Personal.—Dr. and Mrs. Peter N. K. Schwenk have returned from a trip in Europe.

Bequest to Episcopal Hospital.—By the will of the late J. Lower Welsh, the Hospital of the Protestant Episcopal Church receives $50,000.

One Year's Work in the Municipal Hospital.—During 1903, 3,399 patients were treated in the institution, and 3,204 were admitted; 2,464 were discharged, and 512 died. The number remaining at the end of the year was 423. The general death rate for the entire hospital was 17.20 per 1,000.

Maragliano Serum at Phipps Institute.—A thorough test of the Maragliano serum in the prevention and cure of tuberculosis is to be given at the Phipps Institute. Patients have been selected on whom the serum will be faithfully employed. In connection with the use of the serum, it is advised that the patients eat, as part of their food, meat from cattle rendered immune by the administration of the serum.

Malaria-Breeding Mosquitoes at Navy Yard.—The malaria-breeding mosquito has recently been discovered at League Island, and its presence has led the authorities to seek its breeding place and stamp it out. During the past year the men at the island have been remarkably free from malaria, only two or three cases having occurred. This is said to be due to the efforts of the authorities to exterminate the mosquito by the free use of kerosene on the stagnant pools which surround the yard. It is asserted that the dangerous species of mosquito is a new arrival, and that its breeding place lies in the marshes outside the navy yard grounds.

Health Report.—Typhoid fever shows a steady increase since August 1, and only seven wards in the city are free from the disease. During last week 104 new cases were reported, with 10 deaths, as compared with 87 new cases and 8 deaths for the preceding seven days. In all there were 178 cases of contagious disease, with 14 deaths. During the preceding week there were 157 cases, with 12 deaths. The general death rate is below normal, and the deaths from all causes numbered 471, a decrease of 51 from those of last week, and an increase of 17 over the corresponding period of last year.

TENNESSEE.

Will **Build Hospital.**—Tennessee Medical College, Knoxville, will erect a hospital to cost $25,000, and to accommodate 55 patients.

Smallpox.—Russellville, Hamblen County, reports 7 cases.——Between Lyles and Bear Creek, Hickman County, there are from 50 to 75 cases, and compulsory vaccination has been ordered.—Seven cases are reported from Jasper, Marion County.——A new case has developed in Spring Creek, Perry County, and the schools have been closed.

Personal.—Dr. William Litterer has been made professor of histology, pathology and bacteriology in the medical department of Vanderbilt University, Nashville, vice Dr. Louis Leroy, resigned.——Dr. Reuben S. Stanley, Memphis, was thrown from his buggy in a runaway accident, August 24, sprained his wrist and sustained serious internal injuries.

GENERAL.

Society for the Study of Alcohol.—The American Medical Society for the Study of Alcohol and Other Narcotics was organized, June 8, 1904, by the union of the American Association for the Study of Inebriety and the American Medical Temperance Association. The alcoholic problem and the diseases which spring from it are becoming more prominent and its medical hygienic importance have assumed such proportions that physicians everywhere are called on for advice and counsel. All physicians are asked to assist in making this society the medium and authority for the scientific study of the subject, and the secretary, Dr. T. D. Crothers, Hartford, Conn., will be pleased to give any further information.

Testimonial to Dr. Chapin.—It is proposed to give a dinner in November next, to Dr. Chapin, superintendent and physician of the Pennsylvania Hospital for the Insane, who has just completed a half century's work in behalf of the insane. He was appointed assistant physician at the State Lunatic Asylum, Utica, New York, in 1854. Afterward he became connected with the late Dr. George Cook in the conduct of Brigham Hall, Canandaigua, New York, and then, first as one of the building commissioners, and subsequently as physician and superintendent, with the Willard Asylum for the Chronic Insane, an institution made famous under his organization and work. Since 1884 he has been the medical chief of the Pennsylvania Hospital for the Insane. His friends have also arranged to have his portrait painted for presentation to him and to his family in honor of the event. Contributions from his friends may be sent to Dr. E. N. Brush, the Sheppard and Enoch Pratt Hospital, Towson, Md.

FOREIGN.

Relief Work at Harbin.—The receiving committee at Harbin had 7,901 sick and wounded arrive by train from the seat of war during the first month. All but 437 were distributed in the hospitals of the Amur and neighboring regions, the rest being sent home to Russia.

Red Cross Relief for Psychoses Among the Soldiers.—As mentioned recently, page 680, the number of psychoses in the Russian active forces is very large, especially among the officers of the troops at the front. The Russian Red Cross has established a central station for such patients at Harbin.

Traffic in Sales of Medical Practice.—A certain Dr. Lawson of England was sued for misrepresentation of the facts in the sale of a medical practice. The courts condemned him to damages and costs. The remarkable feature of the case was the discovery that this was the twenty-ninth or thirtieth transaction for the sale of a medical practice in which he had engaged.

Etiology of Malaria.—A few Greek writers are dubious in regard to the mosquito origin of malarial infection. They claim that the disease is liable to appear for the first time during the months of the year when there are no mosquitoes. They think that emanations from the soil, stagnant water, etc., are possible factors in its origin, Cardamatis asking: "If the infection of man necessarily precedes that of the mosquito, whence did man derive his primary infection in the first place?"

Cholera in Russia.—Our Russian exchanges have been commenting on the threatening epidemic of cholera in Persia, and a large medical force was dispatched to the frontier to prevent the importation of the disease into Russia. The latest advices by mail are that the epidemic is declining, and that only a single suspicious case was noted in Southern Russia. The cable now brings word that several cases of cholera have been discovered in St. Petersburg and that there is great alarm.

Thermometer That Can Be Boiled.—Bardy's clinical thermometer is made with a bulb above, which allows the mercury to expand without injury to the thermometer when it is boiled. The mercury can be readily restored to its place by a simple maneuver. Professor Raymond recently presented it with a high eulogy to the Paris Académie de Médicine, stating that its use puts an end to the fear of transmission of infection by means of the thermometer. Kantorowicz of Berlin has invented a similar thermometer, mentioned on page 1112 of the last volume.

Sale of a Medical Practice.—The widow of a French physician sold her late husband's practice, office, books, instruments, etc., to another physician, who signed the contract in due form. He afterward found another more promising chance and declined to fulfill the contract, claiming that the sale of a medical practice

is not legal. The local court sustained him in this view, but the court of appeals awarded the widow the damages claimed, on the ground that the articles mentioned in the contract, the location, books, and agreement to introduce the newcomer, represented negotiable property on which a contract was binding.

The School in the Woods for Sickly City Children.—A new departure in school hygiene has been inaugurated at Charlottenburg, Germany. A day school has been established in a pine forest outside the city limits, and the children and teachers go there in the early morning and return home in the evening. About 120 anemic and weakly children were selected from the various day schools and transferred to this new establishment. Arrangements are made to feed the children and to give them medical oversight. Only two and a half hours are devoted to school tasks; the rest of the time the children play in the woods or pavillion. Dr. Bernhard Bendix is the physician in charge of the institution, the official name of which is the Waldschule für kränkliche Kinder.

The Approaching International Medical Congress.—The committee of organization of the Lisbon congress is issuing a bulletin from time to time which displays such businesslike methods and devotion to science that it augurs well for the success of the congress. Nos. 2 and 3 have been recently received. They contain the list of the subjects of the official reports, with the names and addresses of the authors. A list of subjects recommended as themes for further communications in each section are given. The national committees and names of enrolled members are also published. A colonial exposition is to be one of the features of the meeting, as also the conclusions from a collective inquiry on pellagra. The Americans have not sent in their names promptly, only one being found as yet on the list of official addresses—Dr. W. J. Morton of New York, who will speak on the "Ultra-Microscope." Among the "recommended subjects" in the section of medicine, we note "Colibacillosis"; "Dyspnea in Acute Febrile Diseases"; "Meningeal Hemorrhages"; "Paralysis in General, Etiology and Treatment," and "Headaches." Twenty-eight themes are recommended in the section of neurology and psychiatry and thirteen in obstetrics and gynecology. Among the addresses in the latter will be one by Pinard on "Gravidal Autointoxications." Sixteen themes are suggested for the section of hygiene, among them being "Means to Combat Grippe," "Street Sprinkling," and "Epidemiology of Cerebrospinal Meningitis." The list of participants already reads like a roster of the chief luminaries of European science. The secretary asks that articles be forwarded to him before Sept. 30, 1905, typewritten if possible, to facilitate prompt printing. All correspondence should be addressed to Prof. Miguel Bombarda, Hopital de Rilhafolles, Lisbon. See page 141.

LONDON LETTER.

Vital Statistics in 1902.

The sixty-fifth annual report of the registrar-general dealing with the births, deaths and marriages in England and Wales in 1902 has just been published. The estimated population in the middle of 1902 amounted to 32,997,626, of whom 15,952,154 were males and 17,045,742 females. The marriage rate was 15.9 per 1,000 of the estimated population of all ages, which showed a slight increase; in the 3-year periods of 1880-1882, 1890-1892 and 1900-1902 it being 15.2, 15.5 and 15.9 respectively. But as a large majority of the population are either already married or are below the age at which marriage takes place, the total population is not a satisfactory standard by which to measure the rate of marriage. If it be calculated on the unmarried and widowed portion of the population above the age of 15, the apparent increase is turned into a decrease, for the rates for the same periods on this basis are 51.5, 49.8 and 48.7. The birth rate during the year was 28.5 per 1,000, which was identical with that of 1901, but was 1.1 per 1,000 below that of the decade 1892-1901. The death rate was only 16.2, the lowest on record since civil registration was established in 1837.

Statistics of Infectious Diseases in London in 1903.

The annual report of the Metropolitan Asylums Board, in whose hospitals most of the cases of fever occurrying in London are treated, show in 1903 a death rate for scarlet fever of 3.1 per cent.; for diphtheria, 9.6 per cent.; for typhoid fever, 15.3 per cent.; for typhus fever, 21 per cent., and for smallpox, 3.3 per cent. The number of cases of infectious disease admissible to the board's hospitals and classified as such was, in 1901, 35,311; in 1902, 40,046; in 1903, 23,087. For this falling off the abatement of the recent smallpox epidemic was largely responsible, the number of cases of the disease being, in 1901, 1,700; in 1902, 7,796; in 1903, 416. Other diseases also show a considerable decline. Thus, the number of cases of scarlet fever in the 3 years was 18,381, 18,252 and 12,531 respectively, of diphtheria, 11,968, 10,538 and 7,582; of typhoid fever, 3,194, 3,407 and 2,339. In typhus fever alone was there an increase to 22, the highest number since 1893. With regard to diphtheria, an encouraging feature of more importance than the small number of cases is the continued decrease in the rate of mortality since the introduction of the antitoxin treatment. Before this the mortality varied from between 30 and 40 per cent. In 1895, the year in which the antitoxin treatment was introduced, it fell to 22.8. In 1903 it was only 9.69 per cent., though many cases are brought to the hospital too late for treatment. The figures showing the day of the disease on which the treatment was first used are even more striking. At the Brook Hospital, between 1897 and 1903, 187 cases were treated with antitoxin on the first day of the disease without a single death; 1,186 on the second day, with 5.4 and 5 per cent. deaths in the first 2 years of the series respectively, since which the rate has been about 4 per cent. In cases treated after the second day the mortality is much higher, ranging up to and sometimes exceeding 20 per cent. An adverse report is made on Finsen's treatment of smallpox by excluding all but red light. He claims that suppuration of the vesicles and pitting are prevented, the suppurative fever is abolished, and that the mortality is lowered. No such effects were observed in a small ward in which the treatment was carried out, and, moreover, the gloom was believed to have a deleterious influence on the general condition of the patients.

Physical Degeneration.

For some time the public has been gravely concerned by the alleged physical degeneration of the population, which is a standing topic of discussion both in the lay and medical press. Like a good many other topics which furnish "copy" for the press, the subject has sprung into prominence simply because of the sensationalism aroused, and not because it rested on any real basis of fact. The question became so burning that the government took it up and appointed a committee "to make a preliminary inquiry into the allegations concerning the deterioration of certain classes of the population as shown by the large percentage of rejections for physical reasons of recruits for the army and by other evidence, and to consider by what manner the medical profession can best be consulted on the subject with view to the appointment of a royal commission." The committee has now issued a report. They are unable to discover any trustworthy evidence of the general or extensive physical degeneration which has been supposed by some to exist. They recommend that, 1, an anthropometric survey be made with a view to the collection of definite data bearing on the physical condition of the population; in the first instance periodic measurements of children in schools might be taken. 2. That a register of sickness not confined to infectious diseases should be established. 3. That an advisory council containing members appointed by the medical corporations be formed to receive the reports and advise the government. Such a council might be modelled to some extent on *Le Comité Consultatif d'hygiène publique* in France. 4. That the problem of overcrowding be drastically dealt with by fixing a standard beyond which crowding will not be allowed. 5. The provision of labor colonies and public nurseries. Further recommendations are made which involve almost every department of hygiene, such as smoke pollution, medical inspection of factories, alcoholism, food and cookery, employment of women, milk supply, feeding of infants, exercises for children, open spaces.

Correspondence.

Evidently.

CHARLESTON, ILL., Sept. 3, 1904.

To the Editor:—I notice in THE JOURNAL for August 27 that Dr. W. W. Keen, in a letter apropos of the educational exhibit at St. Louis, has this to say: "Next to Germany Japan has done the most. What she is doing in war she is doing in medicine." Permit me to remark that, if Japan is doing in medicine what she is doing in war, she must, indeed, be playing hades with her sick. Yours sincerely.

T. H. SHASTID

A Loose Standard of Measurement.

TOLEDO, OHIO, Sept. 3, 1904.

To the Editor:—In THE JOURNAL for September 4 a writer says that a tumor was "about the size of the distal phalanx of an adult finger," and in the next paragraph he says a gland was "about the size of a marrowfat pea." I presume in the first instance that he refers to the finger as you see it, and not to the bone, because in somewhat awkward English he seems to say that the tumor was 5 cm. in length and 3½ cm. in breadth. It is quite likely that when boys the most of us helped to grow peas, but it is just as likely that the physician who now refers you to a marrowfat pea does so from boyhood memory, and for the last twenty years has not been able to tell one variety of pea from another. "Two feet—the length of the hammer-handle—and so much," is ah old-time expression for the happy-go-lucky measurements as made by the journeyman carpenter, and "bean-sized," "pea-sized," "nut-sized," "fingernail-sized" skin eruptions, tumors, etc., convey about the same ideas of exactness. It is quite as easy to think of fractional parts of an inch or of a centimeter as of the average size of adult fingers.

J. L. TRACY.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

URINARY EXAMINATION IN LIFE INSURANCE WORK.

DR. WILLIAM D. BYRNE, Chicago, writes: In the routine work of urinary analysis connected with examinations for life insurance it is customary to scrutinize the specific gravity and the reaction, and to make the heat and nitric acid tests; then, if these show abnormalities, a microscopic examination for casts follows. Now, in the early stages of interstitial nephritis, do we not find heart and arterial changes, as also alterations in the percentage of urea, of greater value in determining a correct diagnosis? The text-books do not elucidate this satisfactorily, and I should like to hear from you, if you can give the time to answering me.

ANSWER.—Ordinarily, the early stage of chronic interstitial nephritis is marked by an increase of the 24-hour amount of urine, of which the urine of the night is notably greater than that of the day. The specific gravity of the total 24-hour urine is relatively low; the percentage and total urea is also less than normal. The blood pressure is increased and may be noted by instruments, but may not be perceptible to the fingers. In the early stage the cardiovascular changes, which are so easily recognized later, may not be perceptible. Even in the early stage the microscope may enable one to detect hyaline and even finely granular casts, and especially if a centrifuge be used to sediment the urine. Therefore, the important points in the recognition of chronic interstitial nephritis in the early stage are the increase of urine for 24 hours, of which the night excretion exceeds that of the day; relatively low specific gravity; relative and total decrease of urea; increase of blood pressure; the presence of hyaline and often of granular casts, and the presence often in the urine of a trace of albumin.

SAN FRANCISCO, Aug. 29, 1904.

To the Editor:—Will you kindly inform me what states have no medical law.

R. F. T.

ANSWER.—None of the states and territories in the Union is without a medical law at the present time, except Alaska.

Book Notices.

PHYSIOLOGY AND PATHOLOGY OF THE URINE, with Methods for Its Examination. By J. Dixon Mann, M.D., F.R.C.P., Physician to the Salford Royal Hospital. With Illustrations. Cloth. Pp. 272. Price, $3.00. London: Charles Griffith & Co., Ltd. Philadelphia: J. B. Lippincott Co. 1904.

Dr. Mann takes up the subject of the physiologic and pathologic constituents of the urine and the usual chemical and microscopic tests, with a brief consideration of certain diseases in which the urine plays an important part. The subject is well handled, but the author does not depart materially from the methods of writers on this subject who have preceded him.

CLEFT PALATE AND HARELIP: The Earlier Operation on the Palate. By Edmund Owen, M.B., F.R.C.S., Surgeon-in-Chief to the French Hospital. Cloth. Pp. 111. Price, $1.00 net. Chicago: W. T. Keener & Co. 1904.

This little monograph is devoted almost entirely to a description of the operative treatment of cleft palate after the method of Dr. Truman W. Brophy of Chicago. Mr. Owen is convinced, after practical experience, that this method marks a great advance in the surgery of the defect.

INFECTIOUS DISEASES. Their Etiology, Diagnosis and Treatment. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris, etc., Translated by M. S. Gabriel, M.D., New York. With 43 Illustrations. Pp. 864. Cloth. Price, $5.75 net. Philadelphia and New York: Lea Brothers & Co. 1903.

One can not peruse this work without recognizing at once that it has been written by a master mind. The subject has been comprehensively covered in all its phases, historical, theoretical and practical, experimental and clinical. The work of the laboratory is weighed and measured by the facts as presented at the bedside, the results of the one thus controlling and supplementing those of the other in a manner which could only be done by one not only perfectly familiar with laboratory and experimental methods, but also having at his command unlimited clinical facilities. The work is an excellent one and of great value, not only to the general practitioner, but also to the surgeon and specialist, for there is no branch of medicine which does not have to reckon with this class of diseases.

Marriages.

JUDSON A. HULSE, M.D., to Miss Hilda Inman, both of Akron, Ohio.

GEORGE L. BOND, M.D., Alto, Mich., to Miss Georgianna Baker of Ridgeway, Mich.

JOSEPH H. DOYLE, M.D., to Miss Lena Jansen, both of Little Chute, Wis., August 17.

ROBERT WIENER, M.D., to Miss Tillie Polowe, both of New York City, September 4.

JOHN C. COCHRAN, M.D., Big Run, Pa., to Miss Ruth Derr of Lancaster, Pa., July 20.

DANIEL HOPKINSON, M.D., to Miss Manette Meinecke, both of Milwaukee, August 24.

C. T. JONES, M.D., Stafford, Kan., to Miss Anna Harrison of Wichita, Kan., August 15.

R. M. BOLMAN, M.D., Fort Wayne, Ind., to Miss Catherine Geiger of Bloomville, Ohio.

ALBERT C. MCCLANAHAN, M.D., Chicago, to Miss Locky Fox of Portland, Ore., August 24.

JAMES W. GAGE, M.D., Garrett, Ind., to Miss Mary Kruenpelbeck of Cincinnati, August 30.

JAMES GORMLY, M.D., Meadowlands, Pa., to Miss Elsie V. Read of Vineland, N. J., August 24.

W. E. SHALLENBERGER, M.D., Canton, Ill., to Miss Kathryn Elsenfast, at Peoria, Ill., August 17.

J. M. LANNING, M.D., Corinth, Miss., to Mrs. Lydia B. Van Anda of Manchester, Iowa, August 27.

CHARLES P. DOYLE, M.D., Frankfort, Mich., to Miss Clara Kenney of Manistee, Mich., August 17.

LEVI F. DUCKETT, M.D., Cloverdale, Ala., to Mrs. Elizabeth Asheraft Jones of Florence, Ala., August 11.

JAMES A. WRIGHT, M.D., to Miss Nellie Thompson, both of Fair Haven, Ill., at Clinton, Iowa, August 24.

JOHN C. SUNDBERG, M.D., Santa Cruz, Cal., to Miss Hermance Idalie Bundesen of San Francisco, August 18.

WALTER CLARENCE BLEY, M.D., Beardstown, Ill., to Miss Pearl McDonald Barclay of Virginia, Ill., August 27.

FREDERICK BARRETT, M.D., Eveleth, Minn., to Miss Edith Susan Smith of Beaver Dam, Wis., August 25.

HENRI HARCOURT SUTCLIFFE, M.D., to Miss Marion Elizabeth Thompson, both of San Francisco, Cal., August 20.

WILLIAM HUBERT AARON, M.D., Pawhuska, Okla., to Miss May Roxy Todd of Gray Horse, Okla., August 11.

EDWARD MATTHIAS ZEH HAWKES, M.D., Newark, N. J., to Miss Mary Everett of Minneapolis, Minn., August 29.

CHARLES PARKS, M.D., Atwood, W. Va., to Miss Mona Langfitt of Morgansville, W. Va., at Parkersburg, W. Va., August 24.

HENRY SHACKELFORD KELLER, M.D., South McAlester, I. T., to Miss Helen Houston Beach of Louisville, Ky., at South McAlester, August 13.

Deaths.

John Forney Zacharias, M.D. Jefferson Medical College, Philadelphia, 1860, dropped dead in his drug store at Cumberland, Md., August 16, aged 63. He served as assistant surgeon in the Confederate Army from 1862 to 1865, and settled at Cumberland in 1871. During the war he employed maggots in the treatment of hospital gangrene to remove decayed tissue, and claimed that hereby he "saved many lives, escaped septicemia, and had rapid recoveries."

Henry Marshall Fenno, M.D. Harvard University Medical School, Boston, 1876, a member of the American Medical Association, New York State Medical Association, Monroe County Medical Society and Rochester Pathological Society; city physician of Rochester, N. Y., from 1879 to 1881, died at his home in Rochester, August 17, from malignant disease, for which he underwent operation a year ago, aged 53.

Joseph Wiener, M.D. College of Physicians and Surgeons in the City of New York, 1874, a member of the Academy of Medicine, the German Medical Society, and the Physicians' Mutual Aid Association, for many years associate to the chair of military surgery in that institution, died at his home in New York City, August 11, from heart disease, after a prolonged illness, aged 76.

David C. Murphy, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1874, a member of the Kansas Medical Society, died at his home in Edwardsville, Kan., August 22, aged 57. The Wyandotte County Medical Society, at a special meeting, August 23, adopted resolutions regarding the death of Dr. Murphy.

Benjamin D. Watkins, M.D. Tulane University of Louisiana, New Orleans, 1887, surgeon of the Y. & M. V. and N. O. & N. W. railways, and once president of the State Board of Health, who was thrown from his buggy and injured, died at his home in Natchez, Miss., as a result of the injuries, August 12.

William J. Lodge, M.D. University of Maryland School of Medicine, Baltimore, 1859, some-time surgeon U. S. Navy, but since his retirement from practice on account of ill health noted for his genealogic researches, died at his home in Baltimore, August 21, from Bright's disease, aged 72.

James M. Poyntz, M.D. University of Louisville, 1873, of Richmond, Ky., county referee of Madison County, surgeon in the Confederate service during the Civil War, died at Mount Sterling, Ky., August 16, from consumption, after an illness of three years, aged 67.

Oscar Wiley, M.D. Medical Department of Randolph Macon College, Prince Edward Court House, Va., 1851, surgeon of the Fifty-fourth Virginia Infantry, C. S. A., during the Civil War, died at his home in Salem, Va., August 25, from angina pectoris, aged 73.

Henry Tuck, M.D. Harvard University Medical School, Boston, 1867, of New York City, vice-president and medical director of the New York Life Insurance Company, died, after a long illness, at his summer home in Seabright, N. J., September 2, aged 62.

Henry J. Warmuth, M.D. Rush Medical College, Chicago, 1868, of Smyrna, Tenn., died in Philadelphia from disease of the stomach, August 12, after an illness of two years, aged 70. He served as surgeon in the Confederate army during the Civil War.

Isaac N. Dalbey, M.D. Medical Department of Wooster University, Cleveland, 1868, who gave up practice ten years later to enter the pulpit, died at his home in Rochester, N. Y., August 15, from malignant disease, after a prolonged illness, aged 58.

James Herbert Hogue, M.D. College of Physicians and Surgeons of Baltimore, 1885, a member of the American Medical Association, the head of the Gynecean Hospital, Altoona, died at his home in that city, August 30, from paralysis, aged 44.

Charles Frederick Herman Willgohs, M.D. Rostock University, a veteran of the war of Polish Independence, died from pneumonia at the home of his daughter in Akron, Ohio, August 26, after a short illness, aged 100 years and 9 months.

Charles L. P. Smith, M.D. Yale University Medical Department, New Haven, Conn., 1898, died at his home in Cornwall Bridge, Conn., August 18, from injuries received in being struck by a railway train three days before, aged 28.

William D. Spore, M.D. McDowell Medical College, St. Louis, 1861, of St. Louis, died at the Mullanphy Hospital in that city, August 10, from kidney disease of long standing, for which an operation was performed, aged 63.

Orlanda Chester Robinson, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, died at his home in Huntingdon Valley, Pa., August 4, from consumption after a lingering illness, aged 42.

John S. Hileman, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1889, died at his home in Pittston, Pa., August 6, three days after an operation for appendicitis, aged 40.

Henry C. Barnard, M.D. Medical Department of the University of Iowa at Keokuk, 1866, surgeon during the Civil War, died at his home in Charleston, Ill., August 10, after a prolonged illness, aged 68.

William O. Griggs, M.D. University of Maryland School of Medicine, Baltimore, 1893, of New York City, died at the home of his sister in Baltimore, August 26, from consumption, aged 35.

F. Le Baron Monroe, M.D. Harvard University Medical School, Boston, 1860, surgeon U. S. Army, retired, of Meriden, N. H., died suddenly in Woburn, Mass., from apoplexy, August 14, aged 69.

Claude R. Wellington, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1898, died at his home in Mansfield, Mass., August 18, from the effects of an overdose of chloral, aged 34.

Siva Carman, M.D. New York University, New York City, 1881, of Seattle, Wash., died at the Stellacoom Asylum, to which he had been committed in 1901, August 12, aged about 50.

William E. Boteler, M.D. University of Maryland School of Medicine, Baltimore, died suddenly at his home in Middletown, Md., from fatty degeneration of the heart, August 14, aged 83.

Myron D. Blaine, M.D. Detroit Medical College, 1883, of Auburn, N. Y., died at the Clifton Springs Sanitarium, Dansville, N. Y., from rheumatism, after a long illness, aged 45.

Edward A. H. Purdon, M.D. Chattanooga (Tenn.) Medical College, 1891, of Corinne, Utah, died at the Ogden General Hospital, August 3, after an operation for abscess of the liver.

Eldridge G. Simons, M.D. Bellevue Hospital Medical College, New York City, 1875, of Ripley, N. Y., was struck by a train in Cleveland, Ohio, September 1, and instantly killed.

Arthur J. Tessier, M.D. Baltimore (Md.) Medical College, 1901, died at his home in Somersworth, N. H., August 19, from typhoid fever, after an illness of one week, aged 25.

William M. Tobey, M.D., for 30 years a practitioner of New London, Conn., died at his home in that city, August 14, from paralysis after an invalidism of 12 years, aged 83.

J. Lewis Woodville, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1844, died at his home near Sweet Springs, W. Va., August 14, aged 87.

Charles T. Quinn, M.D. Southern Medical College, Atlanta, Ga., 1887, died at his home in Naylor, Ga., August 27, from typhoid fever, after an illness of ten days, aged 43.

Hugh C. McCord, M.D. College of Physicians and Surgeons in the city of New York, 1883, of New Haven, Conn., died at the New Haven Hospital, August 27, from apoplexy.

Samuel H. Guilbert, M.D. Ohio, 1857, of Dubuque, Iowa, died August 28, in Roosevelt Hospital, New York City, where he underwent operation, two weeks before, aged 69.

John W. Tiffany, M.D. Iowa, 1883, of Hiawatha, Kan., died at the home of his son in Cedar Rapids, Iowa, August 25, from disease of the liver, after a long illness, aged 62.

William Ussery, M.D. University of Nashville, Tenn., 1894, died at his home near Lonevak, Montgomery County, Tenn., August 29, after an illness of six weeks, aged 32.

David McClean Crawford, M.D. New York University, New York City, 1851, state senator in 1870 and 1876, died at his home in Mifflintown, Pa., August 25, aged 78.

Millard Fillmore Cyphers, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1887, died at his home in Philadelphia, August 29, aged 45.

John Hector Mackay, M.D. College of Physicians and Surgeons in the City of New York, 1868, died at his home in Truro, N. S., August 3, from acute nephritis.

Daniel H. Cole, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1852, died at his home in Memphis, Mich., August 10, aged 81.

George Henry Fales, M.D. Harvard University Medical School, Boston, 1868, died at his home in East Boston, Mass., August 8, from cerebral hemorrhage, aged 62.

Charles B. Weida, M.D. Jefferson Medical College, Philadelphia, 1887, died at his home in Braddock, Pa., August 29, from morphin poisoning, aged 37.

John P. James, M.D. University of Nashville (Tenn.) Medical Department, 1861, died at his home near Gibson, Tenn., August 14, after a long illness, aged 73.

George Henry Dayton, M.D. New York University, New York City, 1846, died recently, and was buried at his old home in Lima, Ind., August 14, aged 80.

Gideon D. Harris, M.D. Tulane University of Louisiana, New Orleans, 1899, of Indianola, Miss., committed suicide, August 30, by severing the femoral artery.

Anderson G. Cross, M.D. Jefferson Medical College, Philadelphia, 1857, died at his home in Waynesburg, Pa., August 23, after a long illness, aged 83.

William Thompson, M.D. University of Edinburgh, Scotland, 1855, of Pittsburg, Pa., died in Weehawken, N. J., August 21, after a short illness, aged 75.

Russell C. Barrett, M.D. Toledo (Ohio) Medical College, 1886, died at his home in Toledo recently, and was buried at Wauseon, Ohio, August 26, aged 70.

Jacob S. Whitman, M.D. Jefferson Medical College, Philadelphia, died at his home in Lyndon, Kan., August 12, after an illness of several months.

Carl Bergk, M.D. University of Göttingen, Germany, 1867, died at his home in Bloomingdale, Fort Wayne, Ind., August 27, from diabetes, aged 60.

Robert J. Jackson, M.D. Missouri Medical College, St. Louis, 1870, died at his home in Bloomfield, Mo., August 29, after an illness of six months.

George S. Balsbaugh, M.D. Jefferson Medical College, Philadelphia, 1861, died at his home in Forreston, Ill., August 26, after a long illness, aged 75.

J. F. Shackleford, M.D. Medical College of Georgia, Augusta, 1850, died at his home in Trenton, Tenn., September 1, from chronic bronchitis, aged 77.

James D. Kratzer, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1886, died at his home in Lancaster, Mo., August 16, aged 49.

George T. De Verter, M.D. Miami Medical College, Cincinnati, 1872, died from paralysis at his home in Waterman, Ind., August 11, aged 65.

Lewis Melton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876, died at his home in Wheatland, Cal., August 8, aged 68.

Tilghman Seems, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1872, of Mitchellville, Iowa, died in Jamesboro, Ont., August 11.

John D. Karr, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1892, died at his home in Alva, Okla., August 9, from apoplexy.

Josiah H. Helmer, M.D. Albany (N. Y.) Medical College, 1847, of Lockport, N. Y., died suddenly at Theresa, N. Y., August 19, aged 83.

George W. Thompson, M.D. Ohio, 1878, died at his home in Union City, Ind., August 13, after an illness of five years, aged 73.

George R. Harris, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1901, died at his home in Rayne, La., July 30, aged 28.

James C. Smith, M.D. Vanderbilt University, Nashville, Tenn., 1885, of Birmingham, Ala., died in Memphis, Tenn., August 23, aged 37.

Walter P. Ellis, M.D. University of Louisville, 1881, died at his home in Livermore, Ky., August 13, from paralysis, aged 49.

John H. Lueke, M.D. University of Munich, Germany, 1867, of Cleveland, Ohio, died recently in Bremen, Germany, aged 65.

W. B. J. Hardman, M.D. Jefferson Medical College, Philadelphia, died at his home in Commerce, Ga., August 21, aged 82.

John Walker Gill, M.D. New York, 1887, died at his home in Flushing, N. Y., August 22, from Bright's disease, aged 61.

J. J. Hunt, M.D. Royal College of Physicians, Dublin, Ireland, 1868, died at the county farm, Burlington, Iowa, August 30, aged 56.

James Dodd, M.D. Medical College of Ohio, Cincinnati, 1859, died at his home in Bloomington, Ind., August 21, aged 72.

T. Charles Bower, M.D. Pennsylvania, died at his home in Superior, Mont., from pneumonia, July 6, aged about 45.

Albert B. Harris, M.D. Jefferson Medical College, Philadelphia, 1888, died at his home in Wilmington, Del., August 18.

William S. Fraleigh, M.D. McGill University, Montreal, 1869, died at his home in Toronto, Ont., August 19, aged 58.

William E. Parker, M.D. University of Vermont, Burlington, 1883, died suddenly at his home in Boston, August 16.

William Davis, M.D., died at his home in Ripley, W. Va., August 18, from disease of the bladder, aged 78.

Josiah S. Devore, M.D. Ohio, 1882, died at Dunsmuir, Cal., August 4, after an illness of one month.

Esther Woodman Taylor, M.D. Illinois, 1872, of Boston, died recently at Wells, Maine, aged about 70.

Joseph A. Crabtree, M.D. Ohio, 1875, died at his home in Akersville, Ky., July 28, aged 61.

Sim Hopkins, M.D., 1852, died at his home in Leona, Texas, August 25, aged 76.

T. N. Horner, M.D., died at his home in Whitesburg, Tenn., July 18, aged 84.

Deaths Abroad.

Karl Weigert, M.D., professor of pathologic anatomy since 1884, and director of the Pathologic Institute at Frankfurt a M., died there from a stroke of apoplexy, August 5, aged 59. He is known the world around for his pioneer research in bacteriology and pathologic anatomy. His research on the anatomy of smallpox and on the relations between the anilin dyes and the animal tissues laid the foundations, thirty years ago, for much of our present knowledge of pathologic anatomy and bacteriology. His neuroglia staining is considered his greatest triumph, opening the way for study of the structure of the brain from new standpoints. Among his other fruitful works are those on tuberculosis of the veins, staining of bacteria, proliferation of cells under external stimuli, "coagulation necrosis," encapsulation of tuberculous foci, etc. He has trained a number of pupils who do him honor, among them Prof. Paul Ehrlich. Weigert died without having been distinguished by the authorities in any way commensurate to his services to science.

Anton Drasche, M.D., professor of epidemiology at Vienna, member of the Austrian sanitary council, and privy councilor, died at Vienna, August 28, aged 78. He was celebrated for his investigations on cholera and other epidemic diseases and their prophylaxis, and was one of the founders and editors of the *Bibl. der gesamt. med. Wiss.*

Erich Bennecke, M.D., professor of surgery and director of the surgical policlinic at Berlin, died there, August 1, aged 39. He succumbed to septic infection from a scratch during an operation. His death followed close on the retirement of the chief of the policlinic, Professor König.

Association News.

New Members.

List of new members for the month of August, 1904:

ALABAMA.

Love, Wm. J., Opelika.

ARKANSAS.

Ogilvie, R. K., Paragould.
Lynn, J. R., Hazen.
Smith, W. F., Hartford.
Thornton, Edwin W., Piggott.

CALIFORNIA.

Buckley, Emma, San Francisco.
Nagel, G., San Francisco.
Dresel, G., San Francisco.
Holden, E. M., San Francisco.
Wood, J. B., Oakland.
Fay, G. H., Forest Hill.
McNair, Wm. R., Glendora.

COLORADO.

Elder, C. S., Denver.
Hughes, J. G., Greeley.
Eldridge, E. F., Grand Junction.

CONNECTICUT.

Hertzberg, G. R., Stamford.

DISTRICT OF COLUMBIA

Beall, C. M., Washington.
Carrico, A. J., Washington

GEORGIA.

Sanchez, S. E., Barwick.
Earle, C. E., Elberton.

ILLINOIS.

Van Dyke, G. H., Chicago.
Hamilton, Alice, Chicago.
Reynolds, G. W., Chicago.
Butler, J. H., Hartsburg.
Hilgard, G. E., Belleville.
Roberts, Wm. R., Cissna Park.
Matheny, Ralph C., Galesburg.
Reasoner, M. A., Morrisonville.
Joesting, F. C., Alton.

Whitmer, C. F., East St. Louis.
Shawgo, Kirk, Piper City.
Hill, Harry C., Streator.
Beavers, C. E., Barry.

INDIANA.

Moore, H. A., Indianapolis.
Row, G. S., Indianapolis.
Van Cleaver, M. B., Terre Haute.
Shoemaker, S. A., Poneto.
Harrold, E. O., Marion.
Mills, Wm. H., Boonville.
Kime, J. T., Petersburg.
Spear, Robt., East Chicago.
Hendricks, W. E., Martinsville.
Ross, A. A., East Chicago.
McMillen, W. W. P., Decatur.
Scudder, C. P., Washington.
Kresler, A. R., Rensselaer.
Jaquith, O. S., Laurenceburg.
Sauer, F. W., Indiana Harbor.
Emmert, E. J., Laurenceburg.
Roark, B. H., Jamestown.
Washburn, S. S., Lafayette.
Walker, J. H., Henryville.

IOWA.

Homer, H. C., Oskaloosa.
Scheuer, M. M., Valley Junction.
Spence, R. H., Wyoming.
Bundy, A. D., Osage.
Parker, W. W., Floris.
Whitehill, N. M., Garwin.
Crowley, J. M., Webster City.
Murray, F. G., Cedar Rapids.

KANSAS.

Hinden, Jacob, Strong City.
Conlan, P. T., St. Mary's.
Milligan, J. A., Garnett.
O'Donnell, A. E., Kansas City.

LOUISIANA.

Cushman, W. S., Baker.
Ducote, R. G., Bordelonville.
Meyer, A. J., Thibodaux.
Meyer, L. E., Thibodaux.
Gates, A. F., Hammond.

MAINE.

Lincoln, C. J., Augusta.
Bassford, S. J., Portland.
Haskell, A. W., Portland.
Shaw, A. O., Portland.
Gehring, N. J., Portland.
Driscoll, Daniel, Portland.
Searle, F. W., Portland.
Hilton, G. L., Bangor.
Nealey, E. T., Bangor.
Barker, B. F., Bath.
Snipe, L. T., Bath.
Marston, E. J., Bath.
Palmer, H. B., Farmington.
Bartlett, H. L., Norway.
Sylvester, C. B., Harrison.
Hayden, L. B., Livermore Falls.
Tustin, Ruth, Eastport.
Stockwell, H. K., Yarmouth.
Makepeace, B. F., Farmington.
Ferguson, M. H., Biddeford.
Randall, Jesse A., Old Orchard.
Stamwood, A. L., Rumford Falls.
McCarty, E. M., Rumford Falls.
Woodman, G. M., Westbrook.
Milliken, Howard A., Hallowell.
Landry, G. E., Oldtown.

MASSACHUSETTS.

Young, L. J., Haverhill.
Lawrence, J. W., Malden.
Curtis, W. G., Wollaston.
Chute, A. L., Boston.
Farrell, G. L., Malden.
Atwood, A. W., Mt. Hermon.
Downing, C. H., Boston.

MICHIGAN.

Runyan, E. A., Harbor Springs.
McCandless, F., Ithaca.
Edelmar, F. W., Saginaw.
Freeman, F. W., Saginaw.
Klingman, T., Ann Arbor.
Bradley, N. R., Saginaw.
Smith, F. S., Saginaw.
Broun J. B., Levering.
Cooper, J. M., Grass Lake.
Sisung, Victor, Monroe.
Petis, A. J., West Branch.
McClinton, N. F., Alma.
Bagley, E. A., Alma.
Browning, G. S., Alma.

MINNESOTA.

Eberlin, E. A., Glenwood.

MISSISSIPPI.

Aikman, W. H., Natchez.
Chamberlain, C. T., Natchez.
Dee Craft, E., McNeill.

MISSOURI.

Pfeiffenberger, J. M., St. Louis.
Le Grand Suggett, O., St. Louis.
O'Donnell, Alfred, Kansas City.
Deffenbaugh, W. B., St. Joseph.
Anderson, John, Warrensburg.

MONTANA.

Houston, H. E., Kalispell.

NEBRASKA.

Reid, John D., Pilger.

NEVADA.

Piper, Harry E., Tonopah.

NEW HAMPSHIRE.

Eastman, E. B., Portsmouth.
Hannaford, C. W., Portsmouth.
Luce, T. W., Portsmouth.

NEW MEXICO.

Steed, P. M., Deming.

NEW YORK.

Collier, G. K., Sonyea.

OHIO.

Hyde, J. M., Nelsonville.
Richeson, Carrie, Bellefontaine.

OKLAHOMA.

Westfall, G. R., Darlington.
Border, G. F., Mangum.

OREGON.

Thornton, E. H., Portland.
Cable, E. E., Portland.
Keeney, H. L., Portland.
Saunders, C. E., Union.

PENNSYLVANIA.

Hendrick, A. W., Allentown.
Peters, R. C., Allentown.
Guth, N. C. E., Allentown.
Kline, W. D., Allentown.
McCarrell, J. R., Allegheny City.
Bubb, W. M., Allegheny City.
Schatzman, E. P., Allegheny City.
Elmer, W. G., Philadelphia.
Carey, H. K., Philadelphia.
Wishart, C. A., Pittsburg.
Hays, G. S., Pittsburg.
Turfley, G. G., Pittsburg.
Marshall, C. S., Pittsburg.
Clark, W. A., Pittsburg.
Hughes, W. P., Pittsburg.
McAdams, R. J., Pittsburg.
Eicher, C. G., Pittsburg.
Hapgood, L. P., Pittsburg.
Heck, F. H., Pittsburg.
Cochran, T. P., Pittsburg.
Shallcross, W. G., Pittsburg.
Sturm, S. A., Pittsburg.
Weisser, E. A., Pittsburg.
Bennett, W. F., Scranton.
Kearney, P. H., Scranton.
Binkley, W. G., Washingtonboro.
Davis, D. W., Six Mile Run.
De Wolf, W. L., Butler.
Dinger, R. E., New Bethlehem.
Earhart, E. B., Saltsburg.
Eshard, E. L., Glassport.
Harsha, C. L., Canonsburg.
James, U. A., Wilkesbarre.
Kern, R. A., Erie.
McQuaid, J. R., Leetsdale.
Patterson, J. A., Washington.
Rowan, Chas., Etna.
Trevaskis, A. L., Turtle Creek.
Underwood, S. L., Pittston.

RHODE ISLAND.

Skelton, C. W., Providence.
Anderson, A. J., Newport.
Burke, F. E., Wakefield.

SOUTH DAKOTA.

Green, B. T., Brookings.

TEXAS.

Lynch, W. W., Midland.
Pope, Irvin, Tyler.

VIRGINIA.

Styll, R. T., Newport News.
Brady, E. T., Abingdon.

WASHINGTON.

Fleischer, H. J., Seattle.
Gardner, F. P., Seattle.

WEST VIRGINIA.

Ranson, B. B., Harpers Ferry.
Simpson, J. N., Morgantown.

WISCONSIN.

Teschan, R. F., Milwaukee.
Kleise, L. A., Milwaukee.
Eichelberg, F. A., Reeseville.
Von Schallern, Ottmar, Ripon.
Elfers, J. C., Sheboygan.
Ryan, Edw. S., Sheboygan.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending Sept. 3, 1904:

Appel, A. H., surgeon, ordered to report in person to Col. Charles Morris, Artillery Corps, president of the Army Retiring Board, San Francisco, for examination by the board.

Patton, I. W., asst.-surgeon, resignation accepted, to take effect Aug. 25, 1904, as first lieutenant and asst.-surgeon.

Ashburn, P. M., asst.-surgeon, granted thirty days' leave about Oct. 1, 1904, with permission to apply for thirty days' extension.

Edwards, Jas. F., asst.-surgeon, assignment to duty at Army maneuvers, Manassas, Va., revoked.

Raymond, Thos. U., surgeon, granted twenty days' leave of absence.

Davis, Wm. R., asst.-surgeon, ordered to accompany detachment of recruits from Angel Island, Cal., to Vancouver Barracks, Wash., and return to station as surgeon on transport *Sheridan*, San Francisco.

Havard, Valery, asst.-surgeon general, left Governor's Island, N. Y., en route to Gainesville, Va., to report to department commander.

Bailey, Edward B., contract surgeon, ordered to his home, Demopolis Ala., to report to the Surgeon General, U. S. Army, for annulment of contract.

Church, Griswold W., contract surgeon, ordered to his home, Albany, N. Y., to report to the Surgeon General for annulment of contract.

Griffiths, Louis T., contract surgeon, will proceed to Manassas, Va., and report to Major-General Corbin, U. S. Army, for assignment to duty during maneuvers to be held in the vicinity of that place.

Porter, Elias H., contract surgeon, ordered to report in person to the commanding general, Department of the Missouri, for assignment to temporary duty.

Gunckel, Geo. L., contract dental surgeon, left San Francisco en route to Manila, P. I., for assignment to duty.

McCall, James H., contract surgeon, ordered to proceed to Manassas, Va., on official business, and on completion of this duty, return to proper station.

Purnell, Julius M., and Wells, Francis M., contract surgeons, left San Francisco on the transport *Thomas* en route to Manila P. I., for duty.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Sept. 3, 1904.

Page, J., P. A. surgeon, detached from the *Montgomery* and ordered to the *Puritan*, then home and granted leave for one month.

Nelson, H. T., Jr., A. A. surgeon, ordered to duty at the Naval Hospital, Washington, D. C.

Snyder, J. J., P. A. surgeon, detached from the *Maine* and ordered to the *Kearsarge*.

Breck, F. W., pharmacist, appointed a pharmacist from May 20, 1904.

Flint, J., asst.-surgeon, detached from the Naval Hospital, Boston, Mass., and ordered home, and resignation as an asst.-surgeon in the Navy accepted, to take effect Sept. 6, 1904.

McLean, N. T., asst.-surgeon, detached from the Naval Recruiting Station, Buffalo, N. Y., and ordered to the Naval Hospital, New York.

Marine-Hospital Service.

Official list of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine Hospital Service for the six days ended Aug. 31, 1904:

Williams, L. L., asst.-surgeon general, leave of absence granted by Department letter of Aug. 15, 1904, for fifteen days from August 18 on account of sickness, amended to read "leave of absence."

Pettus, W. J., asst.-surgeon general, granted leave of absence for twenty days from Sept. 12, 1904.

Greene, Joseph H., P. A. surgeon, to report to Surgeon P. M. Carrington, Fort Stanton, N. M., for duty and assignment to quarters.

Cofer, L. E., P. A. surgeon, directed to proceed to Hilo, T. H., for special temporary duty.

Clark, Taliaferro, P. A. surgeon, bureau letter of August 5, granting leave of absence for one month from Sept. 15, 1904, amended to read, "one month from Aug. 23, 1904."

McMullen, John, P. A. surgeon, granted extension of leave of absence for fifteen days from Sept. 5, 1904.

von Ezdorf, R. B., P. A. surgeon, relieved from duty in the Hygienic Laboratory, Washington, D. C., and directed to proceed to St. Louis and assume charge of service exhibit at the Louisiana Purchase Exposition.

Anderson, J. F., P. A. surgeon, directed to proceed to Philadelphia, Marietta, Conewago and Swiftwater, Pa., for the purpose of inspecting certain manufacturing vaccine virus and diphtheria antitoxin establishments.

Richardson, T. F., P. A. surgeon, directed to proceed to Brownsville, Tex., for special temporary duty.

Roberts, Norman, asst.-surgeon, on return of P. A. Surgeon B. W. Brown, relieved from temporary duty at Evansville, Ind., and directed to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

Cook, B. J., A. A. surgeon, department letter of Aug. 6, 1904, granting A. A. Surgeon Cook leave of absence for ten days from Aug. 3, 1904, amended so that said leave shall be for seven days only.

Hunter, S. B., A. A. surgeon, granted leave of absence for seven days from Aug. 29, 1904.

Marr, Harrington, A. A. surgeon, granted leave of absence for fourteen days from Aug. 22, 1904.

O'Reilly, W. J., A. A. surgeon, granted leave of absence for four days from Aug. 23, 1904.

Owen, H., A. A. surgeon, granted leave of absence for twenty-one days from Aug. 16, 1904.

Rodman, J. C., A. A. surgeon, granted extension of leave of absence on account of sickness for seven days from Aug. 8, 1904.

Spohn, A. E., A. A. surgeon, granted leave of absence for thirty days from Aug. 20, 1904.

Walkley, W. S., A. A. surgeon, granted leave of absence for one day.

Gibson, R. H., pharmacist, granted leave of absence for thirty days from Sept. 7, 1904.

Miller, Charles, pharmacist, granted leave of absence for three days.

Richardson, S. W., pharmacist, on arrival of P. A. Surgeon R. H. von Ezdorf at St. Louis, Mo., relieved from further charge of the service exhibit at the Louisiana Purchase Exposition and directed to report to P. A. Surgeon von Ezdorf for duty in connection with service exhibit.

Herty, F. J., pharmacist, relieved from duty at Boston, Mass., and directed to proceed to Washington, D. C., for duty in the Hygienic Laboratory.

Southard, F. A., pharmacist, bureau order of Aug. 17, 1904, amended so as to relieve Pharmacist Southard from duty in the Hygienic Laboratory on arrival of Pharmacist F. J. Herty.

Neves, George, pharmacist, relieved from duty at Chicago, Ill., and directed to proceed to Ellis Island, N. Y., and report to Surgeon G. W. Stoner for duty and assignment to quarters.

Thomas, A. M., pharmacist, directed to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

Keen, W. H., pharmacist, directed to proceed to Boston, Mass., and report to the medical officer in command for duty and assignment to quarters.

BOARD CONVENED.

Board convened to meet at Boston, Mass., for the physical examination of First Lieutenant P. H. Brereton, R.C.S.. Detail for the board: Assistant Surgeon W. C. Rucker, chairman; A. A. Surgeon F. H. Cleaves, recorder.

APPOINTMENTS.

Samuel D. W. Light appointed A. A. surgeon for duty at Key West Quarantine Station.

Arthur M. Thomas appointed pharmacist of the third class.

Walter H. Keen appointed pharmacist of the third class.

RESIGNATION.

Pharmacist George O Ferdinand resigned Aug. 15, 1904.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Sept. 2, 1904:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Aug. 20-27, 1 case.
Illinois: Chicago, Aug. 20-27, 6 cases.
Louisiana: New Orleans, Aug. 20-27, 12 cases.
Massachusetts: North Adams, Aug. 20-27, 10 cases.
Missouri: St. Louis, Aug. 20-27, 3 cases.
Ohio: Cincinnati, Aug. 19-26, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila, July 9-16, 1 case, 1 death.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, July 17-24, 196 cases, 100 deaths.
France: Paris, Aug. 6-13, 7 cases, 1 death.
Great Britain: Dublin, Aug. 11-18, 3 cases; Glasgow, Aug. 12-19, 6 cases; Liverpool, Aug. 6-13, 1 case; London, 1 death; Nottingham, July 31-Aug. 6, 2 cases.
India: Bombay, July 25-Aug. 2, 8 deaths.
Italy: Palermo, Aug. 6-13, 8 cases, 3 deaths.
Japan: Nagasaki, July 21-31, 1 case.
Mexico: City of Mexico, Aug. 7-14, 1 death.
Russia: Moscow, July 31-Aug. 6, 18 cases, 6 deaths; Odessa, Aug. 6-13, 2 cases, 1 death; St. Petersburg, July 31-Aug. 6, 12 cases, 4 deaths.
Turkey: Alexandretta, July 31-Aug. 6, 6 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, July 17-24, 3 cases, 1 death.
Ecuador: Guayaquil, July 13-20, 2 deaths.
Mexico: Merida, Aug. 14-20, 2 cases; Tehuantepec, 1 case.

CHOLERA.

China: Hongkong, July 16-23, 2 cases, 2 deaths.
India: Bombay, July 25-Aug. 2, 23 deaths; Calcutta, July 16-30, 15 deaths.
Persia: Teheran, July 16-23, 600 deaths daily.
Turkey: Bagdad and vicinity, July 7, 320 deaths; Muttra, July 12, present; Oman, present.

PLAGUE—INSULAR.

Hawaii: Honolulu, Aug. 22, 1 death on S. S. *Coptic*; Honolulu, Aug. 23, 1 death.

PLAGUE—FOREIGN.

Brazil: Bahia, June 16-Aug. 5, 30 cases, 11 deaths; Rio de Janeiro, July 7-24, 1 case, 1 death.
China: Amoy, June 25-July 16, 45 deaths, estimated; Hongkong, July 16-23, 25 cases, 25 deaths.
Egypt: July 23-30, 17 cases, 8 deaths.
India: Bombay, July 25-Aug. 2, 55 deaths; Calcutta, July 16-30, 12 deaths.
Japan: Formosa, July 16-30, 55 deaths.
Peru: Lima, July 9-16, 7 cases, 2 deaths.

Medical Organization.

Indian Territory.

CADDO COUNTY MEDICAL SOCIETY.—At a meeting of physicians of the county at Anadarko, August 12, a medical society was organized on the standard plan, with an initial membership of 40, and the following officers: President, Dr. Charles R. Hume, Anadarko; vice-president, Dr. Blair, Apache; secretary-treasurer, Dr. James A. G. Tonge, Anadarko, and censors, Drs. Sanger, Dutton, and D. H. Boyd, and E. B. Mitchell, Anadarko.

Kentucky.

TRIGG COUNTY MEDICAL SOCIETY.—This society met at Cadiz, August 13, to effect a more complete organization of the profession of the county. Dr. James H. Lackey, Canton, was elected president; and Dr. Homer Blane, Cadiz, secretary. Dr. J. N. McCormack of Bowling Green was present as a guest. After full discussion and consideration, the standard constitution and by-laws were adopted.

Oklahoma.

PAYNE COUNTY MEDICAL SOCIETY.—Payne County physicians were organized in line with the American Medical Association, August 5, by Dr. A. L. Blesh, Guthrie, councilor of the Second District, with 13 members and the following officers: President, Dr. Ralph W. Holbrook, Perkins; vice-president, Dr. Eli Hughes, Stillwater; treasurer, Dr. J. H. Pickering, Ingalls; secretary, Dr. Harry A. Reese, Stillwater; delegate, Dr. Samuel M. Barnes, Stillwater, and censors, Drs. Edwin R. Thomas, Perkins, Clarence E. Lee, Ripley, and J. T. Gray, Stillwater.

PAWNEE COUNTY MEDICAL SOCIETY.—Dr. A. L. Blesh, Guthrie, councilor for the Second District, reports the organization of three counties in his district, Kingfisher, Noble and Pawnee. The latter county society was organized, August 5, on the standard plan, with 12 members and the following officers: Dr. George H. Phillips, president; Dr. E. L. Bagby, vice-president; Dr. Daniel W. Durrett, secretary-treasurer, and Dr. J. Q. Newell, delegate, all of Pawnee.

Dr. Blesh reports that the Second District is now completely organized, except Logan County, and that will soon be done.

Pennsylvania.

ADAMS COUNTY MEDICAL SOCIETY.—Pursuant to a call issued by Dr. Cyrus L. Stevens, Athens, secretary of the Medical Society of the State of Pennsylvania, the physicians of the county met at Gettysburg, August 25, and effected a county organization on the standard plan, electing the following officers: President, Dr. John W. C. O'Neal, Gettysburg; vice-presidents, Drs. Ebner W. Cushman, York Springs, and J. Lawrence Sheetz, New Oxford; secretary, Dr. Henry Stewart, Gettysburg; treasurer, Dr. Nicholas C. Trout, Fairfield, and member of executive council, Dr. Robert B. Elderdice, McKnightstown.

BEDFORD COUNTY MEDICAL SOCIETY.—This society was reorganized at Bedford, August 5, on the standard plan, and elected the following officers: President, Dr. Samuel G. Statler, Alum Bank; vice-presidents, Drs. John A. Clark, Bedford, and Charles F. Doyle, Cumberland Valley; secretary, Dr. Walter de la M. Hill, Everett; treasurer, Dr. William V. S. Henry, Everett; censors, Drs. Alexander J. Bowser, Bedford, Simon H. Gump, Bedford, D. W. Davis, Coaldale, Benjamin F. Hunt, Clearville, Charles O. Miller, Saxton, and Walter P. Trimbath, Everett, and member of executive council, Dr. Simon H. Gump, Bedford.

Tennessee.

SMITH COUNTY MEDICAL SOCIETY.—The physicians of the county recently met and effected a permanent organization on the standard plan, with Dr. R. W. King, Gordonsville, president; Dr. Joseph C. Bridges, New Middleton, vice-president, and Dr. Marvin Denton, Rome, secretary.

Washington.

KITTITAS COUNTY MEDICAL SOCIETY.—This society was organized in Ellensburg, August 6, on the standard plan, with the following officers: President, Dr. J. C. McCauley, Ellensburg; vice-president, Dr. Emil Mohrmann, Roslyn; secretary, Dr. A. S. Williams, Ellensburg, and treasurer, Dr. Harvey J. Felch, Ellensburg.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Cerebrospinal Meningitis.

Koplik, in the *Med. News*, June 4, 1904, concluded that the disease, very like pneumonia, is a self-limited one, and all we can do is to relieve the sufferings of the patient and treat the complications.

GENERAL TREATMENT.

Fischer, in the *Med. Record*, gives the following general outline of treatment of this condition.

Dietetic.—To sustain life the child must be fed. When there is gastric irritability peptonized milk or peptonized yolk of an egg should be given per rectum. Gavage may be resorted to and light nutritious foods, such as whey, white of egg, soups and broths should be given at regular three or four hour intervals.

Fever.—The temperature of the room should be kept at from 68 to 70 F. If the fever is high, shave the head and apply an ice bag to the head and at the nape of the neck. A mustard footbath will relieve the cerebral symptoms in some cases. Tub baths of tepid water may be tried or the cold pack or ice coil.

Medication.—For the restlessness the author recommends the hypodermic administration of morphin sulphate, gr. 1/30 (2 mg.) repeated three times a day or oftener if required. In some cases five or ten drops of the spirits of chloroform given with the food every three to four hours is beneficial. A ten-grain dose of the bromid of sodium may be given every three to four hours until the cerebral symptoms are modified. Hyoscyamia tablets of 1/100 of a grain are useful when active delirium is present. Suppositories containing the following may be given:

℞. Chloralamid	gr. x	|65
Ext. belladonnæ	gr. ⅛	|008

M. Ft. suppos. No. i. Sig.: Use to promote quiet or sleep.

If stimulants are required he recommends the tincture of musk or the hypodermic injections of camphorated oil, or black coffee. Of other medication he says: The inunction of silver ointment along the spine at least fifteen minutes at a time, can be tried and repeated several times a day. Large doses of iodid of potassium or sodium iodid 15 to 60 gr. (1 to 4 gms.) or even more daily may be ried. Mercurial ointment rubbed into the scalp and nape of the neck was used in one case that recovered.

LUMBAR PUNCTURE.

Koplik, in the article quoted from above, discusses this subject and his observations from his own experience justify the following conclusions:

1. It is not curative and can not prevent relapses.

2. The temperature is not a guide as to the efficacy of the procedure of lumbar puncture.

3. It certainly relieves symptoms of pressure, therefore, if the irritability is great and headache is severe, as may be judged, even in children by the rational symptoms, lumbar puncture is indicated.

4. It is also indicated if rigors are present; the withdrawal of the purulent fluid will give the same relief as when withdrawn from any other cavity.

5. In cases of rigidity, even opisthotonos (basal meningitis) the lumbar puncture often fails.

6. The procedures of injecting chemicals or antiseptic fluids have not lessened the mortality.

7. It aids in the prognosis; if the fluid is thick and purulent, and flows slowly from the canula, the prognosis is grave. Encouraging are the cases in which the fluid is cloudy or shows a straw color.

8. It is probable that the lumbar puncture aids materially in preventing certain complications, such as hydrocephalus, which is a very serious consequence.

Method.—The method used is that advocated by Quincke. The author has never had an accident of any consequence. If he is unsuccessful and obtains what is known as the dry tap, he repeats the puncture in another place, but has not gone further than this. In cases in which hemorrhage occurred no ill effects followed. Quincke believes that the hemorrhage is due to the puncture of a vein in the subdural space.

Number of Punctures.—There is no set rule. If the temperature remains low, and the irritability and headache are not marked, it is well to wait. If there is a subsequent rise of temperature another puncture may be made, but not oftener than at an interval of four or five days.

Quantity of Fluid Withdrawn.—This varies; in some cases the fluid flows very rapidly from the canula, is clear or very slightly turbid, and in a short space of time 60 to 70 cubic centimeters are withdrawn before there is a relief of tension, which is judged chiefly by the rapidity with which the fluid flows from the canula. If the fluid drops slowly he rarely draws more than 30 c.c.

Summer Diarrheas of Children.

Lowenburg, in the *Therapeutic Gazette*, gives the following general outline of treatment for all forms of diarrheas.

PROPHYLAXIS.

Remove or mitigate the etiologic factors. Of these the summer heat and improper feeding are the most important. Heat favors fermentative changes in milk, which in turn is an active cause in the production of intestinal disturbances in children. The child of the rich can be placed in proper hygienic surroundings either in the city or taken to the country or seashore. The children of the slums require our attention and services most. These children should be kept constantly in the open air, preferably in the parks, should sleep in cool, well ventilated apartments, and the beds should be covered with mosquito netting. Cool bathing should be indulged in regularly. Care must be taken regarding the dress. Do not overclothe the child. Soft, unstarched materials should be used and the dress loosely and lightly adjusted, light woolen garments being worn next to the skin only. The author discusses at length the importance of the care and preparation of the food, believing with all authorities that proper feeding requires the best attention. First in importance, the physician should insist on maternal nursing. If this is impossible, a healthy wet nurse should be obtained. Weaning should take place in the fall or winter, if possible. Absolute cleanliness should obtain in the care of the nursing bottle, nipples and all utensils with which the milk comes in contact before being taken by the infant. The nipples should be turned inside out and scrubbed, then washed in sterile water, and kept in a boric solution until ready for use. The bottles should be cleansed and boiled. The milk should be secured from a reliable dairy, the sanitary condition of which is known to be good. The author believes that the milk should be sterilized and afterward kept on ice until used. (In this particular other authorities disagree and believe that the best plan to pursue is to obtain a milk which is known to be procured under the most cleanly conditions, so that the milk shall not become contaminated from the time it is taken from the udder of the cow until it is consumed by the infant. The method of producing milk under the most recent hygienic conditions has been so perfected by some dairies that the obtaining of pure milk has become practicable. The author further deprecates the use of any so-called milk preservative.

The milk should be modified after some one of the methods given, remembering that each case is a law unto itself and the milk must be so adjusted to meet the nutritional needs of the child and its state of health, and not be governed entirely by its age.

DIETETICS.

The beginning of an attack of summer complaint is to be met by the withdrawal of all food, be the child breast or bottle fed. The patient is to be starved for from twenty-four to forty-eight hours. This is one of the best means of controlling vomiting and of preventing further fermentative changes in the bowel. Small quantities of sterile water may be allowed at short, fixed periods. After the starvation period, small amounts of cereal water may be allowed, as barley or rice water. Albumin water, if it agrees, is very useful, and when beef juice is added it will furnish nourishment for many days. It is also a good vehicle for the administration of brandy when a stimulant is indicated.

After the vomiting has ceased and the intestinal canal has been cleansed a gradual return to milk is made, and this must be done with the greatest caution. Better go too slow than too fast. Begin with a very weak milk mixture with the proteids, ½ per cent., peptonize and feed in small quantities and at short intervals. Very gradually increasing the quantity, lengthening the interval and omitting the peptonization, and as the digestive organs become stronger the per cent. of the proteids may be increased until the milk equals the strength of the mother's milk.

Many times it is advisable to omit the casein from the cow's milk because of the difficulty of its digestion in the human stomach, and feed the infant with whey instead, which contains the soluble albuminous portions of bovine milk—lactalbumin and lactoglobulin. The author also recommends the use of dextrinized gruel added to the milk when the whey is not used. This substance so changes the casein of the cow's milk as to make it coagulate in finer curds.

METHOD OF PREPARATION OF DEXTRINIZED GRUEL.

The following is the method as advocated by Chapin: One tablespoonful of wheat flour plus one pint and a half of water, boiling the mixture for fifteen minutes. This is followed, after cooling, by the addition of a dram of a solution of diastase, which renders the gruel thin. Water should be administered in small amounts throughout the course of the disease, to allay thirst, reduce fever, diminish toxemia, and supply the tissues with fluid.

MECHANICAL TREATMENT.

Lavage has but one indication in cases of summer diarrhea, viz., uncontrollable vomiting. One washing is usually sufficient. Colonic flushing is indicated in the following conditions: Where there is evidence that undigested food or putrescible material exists in the intestinal canal, a copious colonic irrigation of normal salt solution, combined with a calomel purge and correction of the diet will give quick relief. In ulcerative colitis, when the stools are mixed with blood, an irrigation with a 1 to 8,000 silver nitrate solution serves a useful purpose. High fever is best controlled by cold irrigations of the colon. Colonic flushing will relieve and prevent intestinal putrefaction, allay thirst, cleanse the bowel and prepare it for the absorption of medicines and nutrient enemas. Hypodermoclysis is especially useful in cases of cholera infantum during the stage of collapse following excessive purgation. Its greatest sphere is in those apparently hopeless cases made so by urinary suppression and threatened cardiac and respiratory failure.

MEDICINAL TREATMENT.

In cases of acute intestinal indigestion and the fermentative type of diarrhea the symptoms are speedily controlled by emptying the intestinal canal by the use of castor oil in dram doses, if there is no vomiting; it removes the offending material and has a secondary constipating effect. In diarrhea, associated with vomiting, the author recommends the following:

R. Hydrarg. chlor. mitis	gr. i	|06
Sodii phosphatis	gr. xxx	2|
Pulv. ipecac	gr. ss	|03
Saccharl lactis	gr. xx	1|30

M. Ft. chart. No. x. Sig.: One every half hour.

The so-called intestinal antiseptics are inefficient because of the necessarily small doses. Salol may be given in from 3 to 5 grain doses, zinc sulphocarbolate in doses of from 1/6 to 1/2 grain.

It is useful to administer dilute hydrochloric acid in doses of from 5 to 10 minims in cases associated with high fever.

Of the astringents morphin is best given hypodermically, gr. 1/800, combined with atropin, gr. 1/300, to a child under 2 years of age; morphin must be given cautiously, and only when the intestinal canal is clean.

Bismuth, in the form of the salicylate or the subgallate should be given in large doses gr. v to xv. The salicylate is best given in the fermental type and the subgallate and subnitrate in the inflammatory forms associated with blood, mucus and tenesmus.

Fever is controlled by hydrotherapy. Indications for stimulation are met by the use of brandy, strychnin and digitalis, and must be used in full doses. Atropin in doses of 1/250 grain has a remarkable effect in cases associated with watery stools, pinched features, a high internal temperature, and a cold, clammy surface.

Of the serum treatment it must be said that up to date it is disappointing and too much in the experimental stage to be of practical benefit.

Medicolegal.

Peculiarities and Requirements of Dying Declarations.—The Supreme Court of Kansas says, in State vs. Knoll, that a dying declaration is hearsay evidence, and is taken out of the rule excluding such evidence, because of reasons of necessity, and because it is supposed that a realization on the part of the declarant of the certain and speedy approach of death affords as powerful incentive to tell the truth as does the administration of an oath. In order to render such declarations admissible, it must be first shown that the declarant was not only in articulo mortis (at the point of death), but under the sense of impending death, without hope of recovery, at the time such declarations were made. But the statements made in this case by the declarant that he had to die of the whipping he had received from the defendant, and that any hour, any day, he might die, the court does not consider sufficiently showed his sense of impending death to render his statements competent as dying declarations. At the same time it says that it is quite true that, where the sense of impending death, without expectation or hope of recovery, exists at the time of making of the statement, such statement is not rendered inadmissible by a subsequently entertained belief or hope on the part of the deceased that he may recover.

Liability for Criminal Act of Person with Delusions.—The Supreme Court of Alabama says, in the homicide case of Porter vs. State, that the mind may, in a sense, be said to be unsound where its possessor is suffering from delusions, hallucinations, and illusions, and yet he may be held responsible for a criminal act, where the intent is an essential ingredient of the offense, if these things are not the products of a diseased brain. In this case, it was open for the jury to find, under the evidence, that the species of insanity or mental unsoundness, if it existed at all, with which the defendant (Porter) was afflicted, was a temporary aberration which sometimes accompanies or follows intoxication, and is often accompanied by delusions, hallucinations, and illusions. This is not such insanity as confers legal irresponsibility. Insanity, to relieve from criminal responsibility, must be caused by or result from disease or lesion of the brain. Furthermore, if the defendant was afflicted with a disease of the brain which rendered him insane, he may have known it was wrong to take the life of the deceased, and, under the evidence, it was open to the jury to so find. If he had this knowledge, in order to relieve him of criminal responsibility, two conditions must concur: (1) If by reason of the duress of such mental disease, he had so far lost the power to choose between the right and wrong, and to avoid doing the act in question, as that his free agency was at the time destroyed; (2) and if, at the same time, the alleged crime was so connected with such mental disease, in the relation of cause and effect, as to have been the product of it solely.

Liability for Giving Illegal Prescription for Liquor.—The Court of Criminal Appeals of Texas takes a somewhat new stand on this subject in the appeal of Williams vs. State. It says that the facts showed that the physician gave an illegal prescription, on which the sale charged was made. He was not interested in the saloon, and did nothing more in furtherance of the sale than the mere giving of the prescription which procured it. The state's insistence was that he was guilty of a sale by virtue of having given an illegal prescription. Under some expressions in Stephens' Case (Tex. Cr. App.) 73 S. W. Rep. 1056, and McLain's Case, 43 Tex. Cr. R. 213, 64 S. W. 865, this was a proper way of prosecuting him. But the real point in the Stephens Case was that there must be a sale, before the physician would be guilty for giving the illegal prescription. However, on a more mature consideration of the Stephens and McLain cases, and in view of the variant views on the question of indictment, the court has reviewed the authorities, and now holds that the indictment in this case, charging the physician, in the usual form, with selling intoxicating liquors in Smith County after such sale had been prohibited in said county, was defective, when applied to the facts intended to be covered by this prosecution. Then, in order to eliminate any doubt as to what is a good indictment, under the laws of Texas, against a physician, for giving an illegal prescription, the court lays down what it holds to be a proper form. Continuing, it says that whenever a party is particeps criminis, or aids and abets the sale, he is guilty, if his acts bring him within the statutes of principals, as applicable to misdemeanors, whether he be a physician or other person. But in order to convict a physician for giving an illegal prescription on which a sale is made, such sale must have been accomplished by the physician giving the patient a prescription when he well knew at the time he gave the prescription to the applicant that he was not actually sick, or, if the proof showed that the physician had not made a personal examination of the applicant for the prescription, this would authorize a conviction, provided a sale was obtained in either instance under said prescription. Wherein these views conflict with the McLain and Stephens cases they are overruled. The court understands that this last proposition is also at variance with its views expressed in Stovall vs. State (Tex. Cr. App.) 39 S. W. 934; McQuerry vs. State, 40 Tex. Cr. R. 571, 51 S. W. 247. It, therefore, held that, in order to make a valid prosecution, the state must prove that the physician not only knew that the applicant was not actually sick, but that the state must prove he gave the prescription without a personal examination. It now holds that, if the state proves either—that is, that the physician knew the applicant was not sick, or if he gave a prescription, whether he knew the applicant was sick or not, without a personal examination, and the sale was obtained on said prescription—in either event he would be guilty of a violation of the law. If the proof in this case had shown, as in the McLain Case, that the physician was aiding and abetting in the sale of the whisky, in addition to the giving of the prescription, in such manner as would make him a principal, he would be guilty. As before stated, this would be true, whether he was a physician or not. But the mere fact of giving an illegal prescription, on which the sale is procured, would not authorize the prosecution of the physician giving the same for the sale thereby procured, under an ordinary indictment for selling.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

August 27.

1 Abstract of Paper Reporting 615 Cases with Operations Done at the Albany Hospital from March 1, 1902, to March 1, 1903, with Remarks. Albert Vanderveer.
2 *Injection Treatment of Internal Hemorrhoids. Collier F. Martin.
3 Beneficent Agency of Peritoneal Exudates, Adhesions, Aperistalsis and Meteorism in Peritonitis. H. G. Wetherill.
4 *Retrodeviations of the Uterus. E. J. Mellish.
5 Treatment of Chronic Colitis. Jesse Shoup.
6 Paraphimosis; Its Management and Treatment. Charles S. Hirsch.
7 Theory of the Symptom-Reflex. T. H. Evans.

2. **Injection Treatment of Internal Hemorrhoids.**—Martin discusses this question in all its phases and describes his method as follows: The rectal speculum devised by the elder Martin is inserted to its full extent; remove the obturator and by gentle rotary and downward motion examine the mucosa carefully. When the edge of the speculum is withdrawn as far as the upper margin of the internal sphincter, any hemorrhoids present on the side examined will prolapse into the mouth of the aperture. Selecting the largest one for treatment, the patient by coughing renders this more prominent. Carefully swab off the surface with some mild antiseptic solution (such as creolin 1 per cent.) and make the injection directly into the most prominent portion of the pile. Withdraw the speculum before removing the needle, allowing the rectal walls to collapse and preventing the escape of fluid or any bleeding. Ordinarily he inserts a suppository containing 32 milligrams (½ gr.) of cocain to prevent the slight discomfort which may be felt for an hour or so, and also a suppository containing .18 c.c. (3 m.) of ichthyol. The ichthyol suppositories are used during the entire course of the treatment, one to be inserted after each bowel movement and one at bedtime. The syringe employed is an ordinary all-metal hypodermic fitted with a four-inch metal extension. The needles are No. 27 gauge and three-quarters of an inch long. The solution used is composed of equal parts of phenol Bonoeuf and distilled water, freshly prepared and filtered. Should the fluid become opaque it must be discarded. Ordinary cases require an injection of from .42 c.c. to .92 c.c. (7 m. to 15 m.). The injections should be made at intervals of from five days to a week, and only one pile should be treated at a visit. Under no circumstances does Martin inject external hemorrhoids, nor any structures covered by true skin. Internal hemorrhoids and cases in which there is a prolapse of the mucous membrane only are treated by this method. When an internal hemorrhoid, from long-continued irritation and inflammation, has become excessively hypertrophied and fibrous, the wisest course to pursue is to anesthetize the tumor and remove it surgically. The injections should be continued until all the hemorrhoids have been absorbed and the rectal mucosa does not prolapse into the speculum to any extent when the patient coughs hard. If any hemorrhoidal tissue remains, the percentage of recurrences will be materialy increased. If the recurrence does take place and the primary divulsion has been performed thoroughly, a second divulsion rarely is necessary, and the patient usually can be relieved permanently by a few additional injections.

4. **Retrodeviations of the Uterus.**—Mellish summarizes his paper as follows: Retroversion is common in virgins but rarely is congenital. Improper clothing during the period of puberty, together with lack of exercise and development, act as causative factors in fully as many cases of retrodisplacement as subinvolution after parturition. Retrodeviations are present in at least 15 per cent. of all gynecologic patients, and in the majority of cases are a source of discomfort or disease. In a large percentage of the cases the intelligent use of the pessary will effect a cure, but when used unintelligently it is positively dangerous. In many cases surgical treatment is absolutely essential. No method of shortening the round ligaments within the abdomen will effect a cure in all cases, because these methods fail to eliminate the weakest part of the ligament, the portion within the inguinal canal. The Alexander-Adams operation is right in principle, and will, more or less modified, maintain its position as a classic operation for the cure of retrodisplacements. The Gilliam modification is easy of execution and meets all the indications for the successful treatment of the displacement and of intra-abdominal complications which may be present. Ventral suspension and ventral fixation are "unphysiologic" operations. They should not be performed on patients susceptible of child-bearing. Vaginal operations in fruitful women are mentioned only to be condemned.

Medical Record, New York.

August 27.

8 *The Subtle Power of Radium. Robert Abbe.
9 *Concerning Shock. Frank P. Vale.
10 The Climate of Tidewater, Va. W. A. Plecker.
11 *Pyloric Stenosis in Infants. J. G. William Greeff.
12 *The Modern View as to the Etiology and Treatment of Eczema. Zama Feldstein.

8.—See abstract in THE JOURNAL of July 2, p. 70.

9. **Concerning Shock.**—Vale has made a careful study of that peculiar symptom-complex known as shock, and concludes that shock is not due to the exhaustion of any one nerve center, or paralysis of any one system, but that the function of every organ, tissue and cell in the body is depressed as the result of a powerful impression on the nervous system which dominates all the functions of life. Experiments performed suggest that an outpouring of lymph into the tissues, in excess of normal, and consequent inspissation of the blood, is one factor which, added to the lowered vasomotor tone occurring in shock, aids in the lessening of blood pressure so characteristic of that condition. This loss of fluid by the blood in shock, a state of vital depression but little short of death itself, conforms to the fact long well known that after death fluid passes into the tissues from the blood vessels. This loss of fluid by the blood and corresponding gain by the tissues as death occurred was sought for and noted in rabbits—as demonstrated by a gain in the specific gravity of the blood and loss in specific gravity of the tissues. The enfeebled action of the heart is largely secondary to the lowered blood pressure; the temporary rise in blood pressure produced by an intravenous injection of salt solution restores the force of heart contractions. The wan, pinched features are due to the empty peripheral vessels and feeble circulation; undoubtedly, however, most marked where there has been an excessive fluid loss by both the blood and tissues, as in peritoneal injuries. The lessened secretions are due to the lowered blood pressure. The feeble circulation and lessened activity of all the organs and general arrest of metabolic processes explain the fall in body temperature. The shallow, slow respiration is in accord with the phenomenon of aerated venous blood. Impaired consciousness is due to the overwhelming nature of the impression on the nerve centers, the feeble circulation augmenting and prolonging this effect.

11. **Pyloric Stenosis in Infants.**—Greeff reports a case of this kind in which he made the diagnosis *intra vitam*. The child was born after a normal labor. For the first two weeks it did quite well, though the stools were not always satisfactory. The child was bottle-fed from the fourth day on, getting two ounces every two hours, day and night, one part milk and two parts water. When two weeks old it started vomiting, became very restless, had temperature and bad smelling stools. When twenty-three days old it was crying constantly, looked very puny, with the skin in loose folds. Stools and urine scanty. The spleen, lungs and heart were normal; liver slightly enlarged; stomach very much enlarged and distended. The lower curvature could be made out three finger-breadths below the umbilicus. The milk was stopped and thin gruels, barley water first, and later of oatmeal, were substituted. Lavage and colonic flushings were given every day. Stomach washings showed no bile; odor very sour; no free hydrochloric acid. Bowel irrigation showed mucous casts and some thick matter. When the child was one month old a wet nurse was engaged; the child nursed eagerly, but vomiting persisted just the same, coming in great gushes either immediately after each feeding or after every two or three feedings. The child seemed hungry and would take the breast again immediately after vomiting, and then usually keep the food down. This also immediately after the stomach washings. The child lost steadily in weight, although at times it appeared to gain a little. The diagnosis of pyloric stenosis was made and a posterior gastroenterostomy was done. The child died from shock twelve hours after the operation. The autopsy confirmed the diagnosis.

12. **Etiology and Treatment of Eczema.**—Feldstein holds that eczema is a parasitic disease, and the only thing necessary to produce an eczema is the congestion of the skin, which may be caused by constitutional ailment or defect, or by outside influences such as cold or chill. The parasite, having once been called into activity, as it were, the primary cause can be cured, but the effect—the parasite—remains until destroyed by a parasiticide sufficiently penetrating to establish contact, and sufficiently stimulating to restore the skin to its natural activity. Constitutional treatment is only useful as an adjunct to the local treatment. An effective parasiticide is absolutely necessary. He has been using a mixture of Juniperus oxycedrus, stavesacre, Pinus silvestris and Eugenia caryophyllata, prepared without any animal fat. This is a parasiticide capable of deep penetration and at the same time harmless to the tissues. It is necessary to commence with weak applications so as to avoid overstimulation. The parts most liable to overstimulation are the genitals and the scalp. As a general rule, the less drugging the better. If internal remedies have to be employed they should be given for a definite purpose and in accordance with definite indications.

New York Medical Journal.

August 27.

13 Multiple Sarcomata of the Subcutaneous Tissue Without Evidence of a Preceding Primary Growth. T. Turner Thomas.
14 *Case of Arthritis Deformans of the Spine. Otto Lerch.
15 *What Are the Facts and Arguments for and Against the Infectious Nature of Malignant New Growths? Charles H. Richardson.
16 *The Roentgen Rays in the Treatment of Tuberculosis of the Joints. J. Rudis-Jicinsky.
17 *Bacteriuria. Edward L. Keyes, Jr.
18 Pulmonary Tuberculosis: Some General Considerations and Its Treatment. Clarence L. Wheaton.
19 Remarks on the Use of the Nasal Saw. George A. Richards.
20 Case of Poisoning by Illuminating Gas. Samuel E. Earp.
21 Status Lymphaticus and Death Following Chloroform Anesthesia. F. A. Simmons.

14. **Arthritis Deformans of the Spine.**—Lerch describes the case of a man aged 54, who six years ago noticed a slight stiffness in the neck, following a trauma, which slowly progressed downward, finally involving the whole spine, making it stiff and immovable, bending him and forcing him to stoop over considerably. All other joints are free, with the exception of the shoulder joints, which are very slightly involved. The patient denied having had syphilis and shows no traces of lues. There is no inherited tendency to the disease, and the cause seems to be due to a concussion of the spine produced by a fall from a wagon, the patient landing on his hands, face and chest. The first symptoms appeared four months after the fall.

15. **Infectious Nature of Malignant New Growths.**—Richardson reviews the literature with reference to this subject and concludes that the various mentioned so-called parasites failed to make good in fulfilling the requirements of an infecting agent. The vast majority of competent pathologists are of the belief that the so-called parasites are changed or degenerated cells, not yet thoroughly classified. Contaminations could not be excluded in the cases that showed any growth out of the vast number of cultures taken on every known media. The tumors produced by inoculation of blastomycetes show them to be only granulomata. Blastomycetes can be cultivated from the air, hence contamination is always possible. In fact, no one has yet been able to grow or demonstrate parasites in malignant growths. The facts and arguments are so overwhelmingly on the side of the embryonic cell theory that for the time being, at least, we shall have to believe that the latency is due to an abnormal play of forces within the body of which, as yet, we know but little. A benign tumor is an abnormal deposit or growth of normal tissue, at least for a time; a supernumerary toe is normal tissue growing in an abnormal position. The author believes that time will show a reaction in the present movement of parasitism and many of its strongest advocates will refute their theories and admit that their conclusions were reached without sufficient investigation.

16. **Roentgen Rays in Joint Tuberculosis.**—The author emphasizes the efficiency of the Roentgen ray in the treatment of joint tuberculosis. Two cases are cited and others are referred to that were benefited by the Roentgen ray after all other treatment had proven futile. Not only were the patients very soon relieved, but they feel well and are strong and hearty, some with ankylosis, others without, according to the

individual circumstances of each case. The proper support adapted to each individual chronic case must be supplied so that the joint will become ankylosed in about four months under the influence of the radiation; and in simple tuberculous synovitis of any joint a prompt cure is obtained, with perfect motion and usefulness of the joint, by injecting it once with iodoform emulsion, formalin and glycerin and exposing it immediately to *x*-ray treatment. It is well to observe by means of fluoroscopic examination, from time to time, the results of the *x*-ray treatment, and to be constantly on the watch for any special susceptibility of the patient, autointoxication, the regulation of the bowels with all the rules of proper hygiene, good nutrition, light and fresh air.

17. **Bacteriuria.**—According to Keyes, bacteriuria is not a simple urinary infection without parietal lesions. It is but a symptom of catarrh in certain parts of the urinary tract; in fact, it is the chief and only striking feature of certain diseases, notably certain varieties of catarrhal pyelitis, such as typhoid, puerperal and acid-retention pyelitis, any one of which may become suppurative. Cystitis never causes bacteriuria, and prostatitis and spermatocystitis only exceptionally cause bacteriuria.

Boston Medical and Surgical Journal.

August 25.

22 *Present Status of Hydrotherapy and Other Forms of Physical Therapeutics. Joseph H. Pratt.
23 *Practical Application of Hydrotherapeutic Measures. Charles S. Millet.
24 Sacral Spina Bifida, with Reference to the Skin Representation of Sacral Nerve Roots. E. W. Taylor.
25 Operations on the Stomach, with Report of Cases. (Continued.) John C. Munro.

22. **Present Status of Physical Therapeutics.**—This is a brief sketch by Pratt of the position hydrotherapy and other physical treatments occupy to-day, with a review of the literature showing that the subject is worthy of more attention, and hoping that the large hospitals will soon have facilities for physical therapy that will compare favorably with those of Germany, and that in order to insure the intelligent application of physical agents it is necessary that instruction in physical therapeutics should be given in our schools.

23. **Practical Application of Hydrotherapy.**—Millet's paper takes up the subject of hydrotherapy in the same manner as the previous paper by Pratt, detailing the author's experience and results, and urging that the remedy receive the confidence which it deserves.

Medical News, New York.

August 27.

26 Delirium from Nervous Shock. Pearce Bailey.
27 A New Portable Sphygmomanometer: Also a Blood-pressure Chart. T. C. Janeway.
28 *Osteoplastic Amputations. A. V. Moschcowitz.
29 *Need of More Accurate Knowledge in the Diagnosis and Treatment of Chronic Suppurative Otitis Media. James F. McCaw.
30 Intestinal Obstruction Following Appendicitis Operations. Report of 86 Cases. Clarence A. McWilliams.
31 *Aseptic Catheterization of the Urinary Passages. M. Krotoszyner and W. P. Willard.
32 Valuable Suggestions from the Inspection of Urine. I. S. Wile.
33 Quantitative Albumin Determination. K. M. Vogel.

28. **Osteoplastic Amputations.**—The burden of this paper is to prove the superior advantages of amputation stumps formed by osteoplastic methods over those formed by the older methods. A stump is perfect when it is fully able to carry on support and locomotion. The essential factor of a good stump is that in no case must the bone expose on its distal extremity a wounded surface; and in order to obtain this result it is necessary to cover or seal the wounded surface with bone covered by its periosteum or, if this be impossible, it is preferable to exarticulate. It is for this reason that Bier devised osteoplastic amputation, the underlying principle of which is to form either from the bone amputated or from a neighboring bone, a thin osteoperiosteal flap, which obtains its mobility from a hinge of periosteum. This osteoperiosteal flap is brought into correct apposition with the sawn surface of the amputated bone, and its periosteum is sutured to the opposed periosteum and other convenient structures. This operation is indicated in every amputation, except in those cases in which the general condition of the patient demands a hasty termination of the operation, and in cases where the nutrition of the parts is so poor that there is danger of necrosis of the osteoplastic flap.

29. **Chronic Suppurative Otitis Media.**—McCaw says that the importance of this condition and the early application of appropriate treatment should be appreciated more fully by every physician. He believes that many patients die from intracranial complications in which the chronic suppurative middle ear disease is never recognized as a causal factor. Chronic otorrhea is not given the importance that its gravity demands. The treatment should be based on the pathologic condition present in each case. In addition to proper attention to the nose and nasopharynx, appropriate treatment to the middle ear will yield good results in a large percentage of cases. Where caries is limited to the ossicular chain and there are no contraindications, ossiculectomy should be the operation of selection. Cases presenting symptoms of extension beyond the tympanic cavity should be subjected to the radical operation.

31. **Aseptic Catheterization.**—The authors consider the sterilization of catheters, the preparation of the urinary canal and the introduction of the instruments in an aseptic manner. They detail a large series of experiments with infected catheters and summarize those methods of sterilization which prove to be safe and simple, as follows: 1. Soft rubber catheters are rendered sterile by being boiled five minutes, preferably in sodium chlorid solution, care being taken that the solution fills the lumen of the catheter. As a matter of precaution the catheter should be washed with soap spirits and running water after use. 2. Hard rubber and silk and cotton woven catheters should be boiled five minutes in a saturated solution of sulphate of ammonia. Each instrument should be wrapped separately in gauze or a towel, or, if several catheters are to be sterilized, in such a manner that their surfaces shall not come in contact with the sides of the vessel or other catheters. 3. Ureter catheters can be folded and wrapped in a towel so that their surfaces are kept apart and boiled for five minutes in a saturated solution of ammonium sulphate. 4. Cystoscopes should be sterilized by first washing them in soap spirits and water, then vigorously rubbing them for two minutes with two different pieces of gauze or cotton wet with soap spirits, and then with alcohol, for one minute. The channel of the catheter can be cleansed by means of a brush, first brushing with soap spirits and then with alcohol. Instruments can be kept aseptic if they are snugly wrapped in a piece of gauze or towel wet with soap spirits.

Cincinnati Lancet-Clinic.

August 27.

34 Pregnancy After Fixation of the Uterus. Byron Stanton.
35 Some Experience with Pott's Disease. E. E. Armstrong.
36 Gonorrheal and Gleet Infections in the Female. Earl Harland.

American Journal of Obstetrics, New York.

July.

37 *Relation of the Appendix to Pelvic Disease. Reuben Peterson.
38 *Clamp and Cautery in Appendectomy. Joseph Rilus Eastman.
39 *Study of a Specimen of Ovarian Pregnancy. J. Clarence Webster.
40 *Ureterolithotomy. J. Wesley Bovée.
41 *The Preventive Treatment of Pelvic Floor Lacerations. J. Clifton Edgar.
42 Transverse Suprapubic Division of the Skin for the Simultaneous Performance of the Intra-abdominal Work and of Inguinal Shortening of the Round Ligaments. Henry J. Kreutzmann.
43 Treatment of Post-operative Peritonitis. Egbert H. Grandin.
44 Treatment of Gonorrheal Peritonitis in Females—Young and Older. A. Ernest Gallant.

37. **Relation of Appendix to Pelvic Disease.**—Peterson removes the appendix in every case where the abdomen is opened for other purposes unless the patient's chances of recovery are jeopardized by the addition of five minutes' time required for the removal. Two hundred appendices thus removed were subjected to careful microscopic examination. Thirty-two and five-tenths per cent. were absolutely negative; 28.5 per cent. showed evidences of active catarrhal inflammation or ulceration of the mucosa, with atrophy of the mucosa and lymphadenoid tissue or muscularis, associated with fibro-

blastic proliferation or formation of scar tissue; 20.5 per cent. were of doubtful significance, showing hyperplasia of the lymphadenoid and connective tissue, dilatation or constriction of the lumen, local or general atrophy of the muscular coat, unattended by conclusive evidences of inflammation; 14 per cent. showed every evidence of a former inflammation; 3 per cent. were acutely inflamed; 1.5 per cent. showed evidences of periappendiceal inflammation. Thus, 53 per cent. showed practically no evidence of disease, while the remaining 47 per cent. were diseased. As the result of his clinical observations, Peterson concludes that: The average length of the appendix is between 8 and 9 cm., the maximum length being found between the ages of 20 and 30. After this period the average length of the appendix is less, probably because of normal atrophy or because of inflammatory changes. Menstrual pain may be due or enhanced by the presence of an inflamed appendix. The congestion incident to menstruation increases the inflammation and gives rise to attacks of appendiceal colic. It is exceedingly difficult to differentiate between pain due to pelvic lesions and pain due to chronic appendicitis. The shape of the appendix and the existence of adhesions can not serve as an index of its normality or disease. The appendix is the seat of fecal concretions in at least 8 per cent. of all cases, but this does not signify disease. Nearly 50 per cent. of patients with chronic disease of the appendages show accompanying disease of the appendix. This may be due to direct contact of these structures, or the infection may travel from one to the other through the lymphatics. In 50 per cent. of patients with uterine fibromata there is accompanying disease of the appendix. In 70.9 per cent. of patients with ovarian cystomata the appendix is diseased. The appendix is not infrequently adherent to an ovarian cyst and may even infect the latter. Since it is impossible for the surgeon to determine by gross appearances which appendix is diseased, and since nearly 50 per cent. of appendices where the abdomen is opened for other purposes are found diseased, it is the surgeon's duty, in the absence of contraindications, to remove the appendix in every such case. Systematic examination of a series of removed appendices shows the occasional presence of primary carcinoma in such an early stage that it could not have been detected by inspection at the time of operation. Even were carcinoma of the appendix not commoner than once out of 200 abdominal sections it would still be an argument in favor of the removal of the appendix in every case where the abdomen is opened for other purposes.

38. **Clamp and Cautery in Appendectomy.**—Eastman criticises the usual methods employed for abscision of the appendix and disposition of the stump because in many cases they fail to effect a complete cure and often are responsible for the formation of fecal fistulæ and sepsis. He believes that a light clamp with broad, accurately-fitting protecting shields, applied to the base of the appendix, will effectually preclude the possibility of pus from the cecal wall or appendix contaminating the neighboring serosa or floating into the peritoneal cavity. Very little pus or other fluid contents will escape, though the appendix be quite full, if the separation is made with the hot cautery knife between two clamps; and, moreover, whatever fluid may escape will have been rendered sterile by the heat of the cautery, though this heat need not be intense enough to burn or sear the serosa. If the heat is feared the appendix may be cut off with scissors or knife, while the special clamp with its trough-like shields protects the peritoneal cavity from contamination. The author's method is a modification of the one practiced by his father, the late Dr. Joseph Eastman. It consists in the addition of the removable shields in which the escaping contents of the appendix are caught, and the changing of the grooves in the jaws so that they run not transversely but parallel to the jaws of the forceps. The forceps are applied close to the cecum, the jaws parallel to the ventral longitudinal muscle band. Light artery forceps are applied above the clamp and the appendix is severed between the artery forceps and clamp with a Paquelin cautery. The removable shields catch all escaping fluid from the appendix. The slightest traction releases them. After they have been displaced the base of the appendix is held in a single light clamp. Either pursestring sutures or Lembert sutures can then be introduced. After removal of the forceps the canal is explored and the stump invaginated. The use of the forceps minimizes hemorrhage and in most cases will shorten the time of operation. The cautery used is a light cautery blade and the heat is just sufficient to separate the appendix and destroy bacteria. No difficulty is experienced in making this operation through the small gridiron incision. The forceps should have slender jaws beveled on the under side to avoid cutting the serosa of the cecum where they compress.

39. **Ovarian Pregnancy.**—Webster gives the history of a case of ovarian pregnancy which necessitated the removal of the ovary during the third month of the pregnancy. The macroscopic and microscopic appearances of the specimen are described in detail and numerous illustrations are shown.

40.—See abstract in THE JOURNAL, xlii, p. 1583.

41.—Ibid., p. 1584.

Medical Herald. St. Joseph, Mo.

August.

45 Errors in Diagnosis of Ureteral Calculus. Byron Robinson.
46 *Conservative Surgery. J. W. Cokenower.
47 A New Method in the Management of Irreparably Crushed Extremities. Charles H. Wallace.

46. **Conservative Surgery.**—The subject of ovarian neurosis, says Cokenower, is one of the most difficult, because of the impossibility to fix a standard from which to determine the beginning of surgical treatment; hence, the question is one of diagnosis rather than of surgery, and the thing to do is to decide whether the symptoms arise directly or indirectly from pelvic disease. All diseases are not the result of pelvic disease. The intimate relationship existing between diseased conditions of the reproductive organs of the female and functional disturbance and organic change in other parts of the body should be better understood; also that fermentation and putrefaction within the intestinal canal will produce autoinfection and intoxication, ptomaines and leucomaines, which are the most common cause of nervous disease. Many surgical procedures have failed utterly to relieve the condition for which they were advised. Many operations which a few years ago were very popular for the relief of supposed ovarian nervous troubles have grown in disfavor and are now seldom done. Operations on the ovaries that preserve the menstrual and reproductive function should be employed, when possible, in lieu of complete extirpation. Healthy displaced ovaries may be anchored to the posterior surface of the broad ligament, or by shortening the infundibulo-pelvic ligament. Sterile women and married women who are using means to avoid pregnancy are unfavorable subjects on whom to do conservative operations on the ovaries. Conservative operations should be avoided, as a general rule, in all pus cases.

Ophthalmic Record, Chicago.

August.

48 *Traumatic Dislocation of the Lachrymal Gland. Edward Jackson.
49 Partial Fixation of the Globe for the Improvement of Vision in Certain Cases of Nystagmus. J. Elliott Colburn.
50 A Simple Instrument for Removing the Granulations in Trachoma. M. D. Stevenson.
51 Comparative Study of Normal and Subnormal Color Perception in Its Relation to Distant Signal Lights. Mortimer Frank.
52 A New Tube for and Method of Operation on the Lachrymal Duct to Restore Tear Drainage. J. Winter Wamsley.
53 Polpys in the Lower Canaliculus. George F. Libby.
54 Case of Anisocoria. Henry D. Steele.
55 Dionin in Ophthalmic Therapeutics. Albert E. Bulson, Jr.

48. **Dislocation of Lachrymal Gland.**—Jackson reports a case of dislocation of the lachrymal gland in a man aged 44, who had been thrown from a wagon, falling on his head, which struck a sharp stone. He received a wound in the upper lid parallel to the orbital margin and about one inch long, from which there was free bleeding. The first physician called closed the wound with several stitches and dressed it. Healing took place by first intention, but the lids remained red and swollen. The eyeball was displaced forward, downward and inward, and was capable of only very slight movement in all

directions. There was no sign of fracture of the orbit. On examination the eye itself was found to be perfectly normal. The gland was removed and the patient made an uneventful recovery. The eye presents no deficiency of lachrymal secretion, and although the movements of the upper lid are very imperfect the palpebral fissure can be opened to the width of six millimeters. Movement of the eyeball is normal in all directions except upward, where it is limited to thirty degrees.

American Journal of the Medical Sciences, Philadelphia.

August.

56 *Two Thousand Operations for Appendicitis. John B. Murphy.
57 Pseudomelanosis of the Hemolymph Glands. Alfred Scott Warthin.
58 *A Study of the Tubercle Bacilli Isolated from Three Cases of Tuberculosis of the Mesenteric Lymph Nodes. Theobald Smith.
59 A Study of Circumscribed and Diffuse Pulsation of the Wall of the Thorax. Joseph Sailer.
60 Pyopericardium and Commencing Interstitial Pneumonia Complicating Ileocolitis in an Infant aged 4½ Months. D. J. M. Miller and J. C. Gittings.
61 *Treatment of Chronic Internal Hydrocephalus by Autodrainage. Alfred S. Taylor.
62 Case of Splenomegaly with Blood Changes and Symptoms Resembling Those of Banti's Disease, Apparently Due to Malaria. Solomon Solis-Cohen and Randle C. Rosenberger.
63 The Leucocytosis of Pregnancy, of the Puerperium and of Eclampsia. Ralp W. Lobenstine.
64 The Relations of the Islands of Langerhans to Diseases of the Liver, with Special Reference to Carbohydrate Metabolism. Joseph C. Ohlmacher.
65 Orthostatic Albuminuria. Charles Louis Mix.
66 Adiposis Dolorosa. J. N. Hall and C. E. Walbrach.
67 Aneurism of the Heart. Philip D. Bourland.
68 Esophageal Neuroses. A. L. Benedict.

56. **Two Thousand Operations for Appendicitis.**—Murphy's article is a retrospective consideration of the subject of appendicitis based on 2,000 operations, with deductions therefrom. After a very thorough description of the surgical anatomy of the appendix the author proceeds with the clinical history of the disease. Foreign bodies were present in a little less than 2 per cent. of the cases. Fecal concretions were found in 38 per cent. The erosion produced by these objects produces an atrium for the admission of bacteria. The bacteria found were, in the order of frequency, bacillus coli communis, staphylococcus, pyogenes aureus and albus, streptococcus, pneumococcus, bacillus tuberculosis and actinomycosis. Appendicitis is neither contagious nor infectious, although it seems to have family predilections. The symptoms in the order of their occurrence are (1) pain in the abdomen, sudden and severe, followed by (2) nausea or vomiting, within a few hours, but most commonly between three and four hours after the onset of pain; (3) general abdominal sensitiveness, most marked in the right side, or more particularly over the appendix; (4) elevation of temperature, beginning from two to twenty-four hours after the onset of pain. When that order varies, Murphy always questions the diagnosis. If nausea and vomiting or temperature precede the pain, he feels certain that the case is not one of appendicitis. When the temperature alone precedes the pain for a day or two, he fears that it is typhoid fever with a typhoid ulcer in the appendix. In not a single case was pain, usually colicky in character, absent as an initial symptom. It usually reached the acme of intensity about four hours after its onset and then subsided gradually in the majority of cases. With the cessation of pain, in cases where the pus was liberated from the appendix, came diminution or cessation of absorption, but not necessarily a diminution or cessation of danger. He has never had a case of appendicitis without elevation of temperature. He does not consider leucocytosis of any value except as an indication of the absorption of septic products. Furthermore, infection may be present without there being any leucocytosis. The character of the pulse is of little value in the differential diagnosis of appendicitis. With reference to the clinical course of appendicitis, Murphy says that the inflammation may subside within a few hours by escape of the infected material along the tract of the appendix into the cecum; that it may subside as a circumscribed inflammation of the appendix; that it may form a circumscribed infection without the production of pus in the free peritoneal cavity; that it may subside as a circumscribed abscess outside the appendix, rupture through the wall of an adjacent coil of intestine and empty itself in that way; that it may subside as circumscribed peritoneal abscess and remain quiescent, to be opened later; that it may terminate in a circumscribed or diffuse general suppurative peritonitis; that thrombophlebitis of the iliac veins and general embolism, portal thrombosis, hepatic abscess, extension of the inflammation into the pelvis, behind the peritoneum, around the kidney, liver and gall bladder, into the subphrenic space, through the diaphragm into the lung, or into some portion of the urinary or genital tracts, are possible methods of termination. The time for operation is divided into four stages: 1, within the first forty-eight hours; 2, from the second to the fifth day; 3, from the fifth or seventh day on; 4, in the intermediate stage—between attacks. He advises operation on every patient who has been through an acute attack of appendicitis. In this class of cases he has had only one death in 1,300 or 1,400 operations, the result of an acute, infective peritonitis traceable to an interne who had, without Murphy's knowledge, made a postmortem on a post-abortion peritonitis the night before the operation. The type of operation and the subsequent management of the cases are described in detail, but Murphy's methods are sufficiently well known so as not to necessitate detailed reference to this portion of the article. The mortality varies considerably when it is studied in groups of 100 cases. The greatest mortality was in the first 100, when it reached 11. The number of deaths in each 100 then gradually decreased until after the meeting of the American Medical Association in Atlanta in 1896, when a great cry was raised against peritoneal operations and particularly against the frequent operations for appendicitis. General practitioners hesitated before advising operation, and consequently the mortality rate increased in the year following this meeting, reaching 7 in 100. Then there was a gradual decline as the error of the position was recognized, until a second epidemic of so-called conservatism (expectant treatment) passed over the country and the mortality reached 6 in 100. For the last four years there has been a steady decline in the number, until in the last 100 operations there was a mortality of only 2 per cent. One of these deaths was due to an ileus of the small intestine high up, bearing no relation to the appendical operation, and the other a death from a double pneumonia six days after the operation for general septic peritonitis of appendical origin. Every death from appendicitis is the result of not calling in a physician sufficiently early after the onset of symptoms, or of dilatoriness on the part of the physician and surgeon in not acting promptly when they are called. There is no plan of medical treatment which will lower the mortality in appendicitis. The physician can make an early and accurate diagnosis and he is not justified in deferring operation, because the final results in appendicitis, as a whole, are very gratifying. The surgeon should conduct a case of appendicitis to a favorable termination with the least hazard or risk to the patient, regardless of his personal or professional feeling. A second operation with a living patient at the end is better than a primary radical operation with a mortality of 2 or 3 in a hundred as the price. The man who is having more than three or four deaths in a hundred operations is either receiving his patronage from incompetent and procrastinating medical men, or he is doing too much manipulating in the peritoneal cavity under unfavorable pathologic conditions.

58. **Study of the Tubercle Bacilli.**—Smith says that no observations have thus far been presented which invalidate the distinction between the bovine and the human variety of tubercle bacilli made by him in 1898. Since then he has made three cultures from the mesenteric lymph glands of human beings, studying them from these points of view best adapted to inform us whether they are of the bovine or of the human variety. The bacilli isolated from these three cases of presumable food infection do not correspond to the bovine type of tubercle bacilli in any one particular. They were cultivated readily from nearly all the guinea-pigs inoculated, and grew luxuriantly from the start on dog serum. Subcultures on glycerin agar and glycerin bouillon grew vigorously after the first transfer from dog's serum. Morphologically, the bacilli were either fairly long, averaging about 2 microns in

length, or they were very variable. The uniformly short, straight forms of the bovine types were absent. In all cases the bacilli were of a very low order of virulence, lower even than that of many of the cultures of human origin studied heretofore. We have, as yet, no satisfactory evidence concerning the degree of change, if any, which tubercle bacilli of bovine type may undergo in the human body. That changes could be as thorough-going as would be the case if we were inclined to attribute these cases to infection by way of the digestive tract through milk is at present quite inconceivable, and we must content ourselves to referring them to infection with bacilli of strictly human origin.

61. **Chronic Internal Hydrocephalus.**—According to Taylor any method of drainage, done with a view to relieving an internal hydrocephalus, in order to be successful must be internal, slow, prolonged or permanent. It would seem as if a small permanent fistula between the ventricles and the subdural space would most closely resemble normal conditions, and in the hope of attaining that end six cases were operated on as follows, under general anesthesia: An osteoplastic flap about two inches in diameter is turned down, with its hinge over the base of the mastoid and just above the level of the horizontal lateral sinus. In the lower part of the dura mater thus exposed a semicircular flap base downward and about one inch in diameter is made. Care must be taken not to injure any distended veins, as their walls are so pliable that neither clamp nor ligature is of much use, and the bleeding is annoying. A slender aspirating needle is passed through the second temporo-sphenoidal convolution, which usually protrudes, inward and slightly upward until it enters the ventricle, when the clear fluid spurts out and is collected in a sterile tube for bacteriologic examination. Only a very small amount should be allowed to escape in this way. The drain is now made of No. 2, forty-day chromic catgut. Three loops (six strands) about an inch and three-quarters longer than the thickness of the brain, are bound together by a loose spiral of catgut, starting at one end and stopping so as to leave an inch and a quarter of the loops free. Around the shaft of the drain, but not covering its tip, are rolled three layers of cargile membrane. With a long, narrow-bladed thumb forceps the tip of the drain is seized and carried into the ventricle along the tract made by the aspirating needle. The tip projects about one-half inch into the ventricle. The free loops of gut are slipped under the dura, between it and the brain surface in different directions, but chiefly downward toward the great lymph spaces at the base of the brain. A sheet of cargile membrane is slipped between the dura and the catgut loops to prevent adhesions. The dura is sutured with catgut, the bone flap is held in place by three or four chromic catgut sutures, the deeper soft tissues by catgut, and finally the skin, with silk. A good-sized sterile dressing is applied with some pressure. After the first twenty-four hours there is no further external escape of ventricular fluid. Two of the cases so operated on are still living, twenty and eleven months respectively. Although there is little improvement in their physical condition, the betterment of the mental condition is quite marked. One case lived two months and died of acute gastrointestinal disturbance. Another died about sixty hours after operation and unquestionably as the result of it. Another case developed an otitis media on the fourth day, then anuria and died on the eighth day. The last case died suddenly on the sixth day, when it had apparently been recovering slowly from the sharp reaction of the first three days. That prolonged drainage can be obtained by this method seems demonstrated by the first two cases. It is interesting to note that in both cases the drainage became most active about two and one-half to three months after operation. The operation, to attain its best results, must be performed early, before irreparable damage has been done to the brain. It must be brief, to avoid shock; inflict the least necessary traumatism to the brain: permit of the escape of only a little ventricular fluid so as to avoid any sudden change in the hydrostatic condition of the brain. The after-treatment of these cases resolves itself into a problem of medico-pedagogical training.

Annals of Gyneclogy and Pediatry, Boston.

July.

69 *The Boston Floating Hospital. Robert W. Hastings.
70 The Immediate Repair of Injuries of the Perineum Received in Childbirth. Ernest W. Cushing.

69. **The Boston Floating Hospital.**—Hastings describes this unique hospital, which has been in existence since 1894. The vessel used, a barge, has three decks. The lower deck and the main deck, except the cabin in the stern, are used for the machinery, tanks, crew's quarters and the navigating appliances. The stern cabin is used as a ward and contains 13 cribs. The open space on this deck serves as a dining-room. The kitchen, storeroom, babies' food department, refrigerators, a small operating room, linen-room and one or two offices are also located on this deck. A small open space is used by guests twice a day for a kindergarten. The largest ward on the boat has beds for 21 children. Another ward, intended for chronic, generally tubercular cases, has 4 beds. Another ward has 15 beds, a total of 53 beds. The upper deck is used almost entirely by day-patients, who come at 9 in the morning and leave at 4 in the afternoon. Over 30 nurses and from 10 to 15 doctors and medical assistants take care of the patients. The medical staff consists of a visiting and a consulting staff, a resident physician, two assistant resident physicians and an externe. Six medical assistants are assigned—two to each of the medical services and two to the out-patient services. The nurses are all graduates and work for a merely nominal wage because of the experience they can get, and the course of lectures which is given each year by the staff. Satisfactory practical work and the passing a written examination based on these lectures entitles them to a diploma. Two hundred and ten patients were treated in 1903 in the permaanent wards, each one staying an average of 17 2/3 days. The death rate was about 23 per cent., while 46 per cent. were discharged well. Of the 50 patients who died 16 were moribund at entrance and survived less than 48 hours. Four hundred and ninety-eight patients remained for the day only, many of them making ten or twelve trips day after day. Of these 272 left well, while 110 others were greatly relieved. An abundance of pure fresh air is the essential element in the treatment of the cases, although this is supplemented by food, care and a little medicine. The milk used comes directly from the Walker-Gordon farm and is delivered within four hours after the time it is milked. A so-called "atmospheric plant" supplies fresh air on days when the humidity is very high. Air is taken from the upper deck, carried over coils of brine, kept at zero temperature, and the moisture contained in it is frozen out. This dried air is then warmed by a steam coil and blown into the wards. By this means an even temperature of about 68 F. and a humidity of about 50 per cent. is maintained. The vessel is towed out into the harbor at 9:30 a. m. and remains there until 4:30 p. m.

American Practitioner and News, Louisville, Ky.

August 15.

71 General Suppurative Peritonitis of Streptococcus Origin, with Recovery. E. S. Allen.
72 Mouth Breathing. M. F. Coomes.

Columbus Medical Journal.

August.

73 Placenta Previa, with Report of Some Cases. D. S. Hanson.
74 History of the Surgery of the Biliary Ducts. Byron Robinson.
75 Differential Diagnosis of the Chronic Specific Diseases of the Skin. Herbert O. Collins.
76 The Relation of the Medical Practitioner to Preventive Measures Against Tuberculosis. Arthur Newsholme.
77 Sanitary Organization. J. W. Clemmer.

Detroit Medical Journal.

August.

78 Diabetic Gangrene. Stuart E. Galbraith.
79 Diseases of the Rectum and Anus. Modern Methods of Treatment and Diagnosis. Louis J. Hirschman.
80 Therapeutics of the X-ray. Henry H. Cook.
81 Foreign Body in the Meatus Acusticus Externus. Aggravating an Acute Tympano-mastoiditis. Emil Amberg.

Northwestern Lancet, Minneapols.

August 15.

82 Some of the Difficulties to be Overcome in the Radical Mastoid Operation for the Cure of Chronic Purulent Otorrhea. Frank Allport.
83 Etiologic Relationship Between Cancer and Ulcer of the Stomach. Geo. Douglas Head.
84 Degenerative Diseases of the Heart and Arteries. J. C. Adams.

Chicago Medical Recorder.

August 15.

85 Report of a Case of Leukemia Treated by X rays and Symptomatically Cured. Paul Chester.
86 Clinical Aspects of Catharsis. Dr. Walsh.
87 Home Sanatoria. Ethan A. Gray.
88 Primary Perichondritic Abscess of the Thyroid Cartilage Due to Typhoid Fever (with Report of One Case). Henry Herbert.
89 Enuresis Nocturna. William F. Waugh.
90 The Nerve Hygiene of School Children. Walter M. Fitch.
91 Nervous Diseases and Eyestrain. Aria L. Derdiger.

Kentucky Medical Journal, Louisville.

August.

92 Prostatic Enlargement and Prostatectomy. August Schachner.
93 Diagnosis, Prognosis and Treatment of Chronic Non-suppurative Middle-ear Disease. J. Morrison Ray.
94 Self-dispensing by Physicians, from the Pharmacist's Standpoint. Addison Dimmitt.
95 Some Phases of Hysteria as We See It in the Study of Diseases of the Eye, Ear, Nose and Throat. Adolph O. Pfingst.
96 Relations of the Trained Nurse to the Physician. Arch Dixon.

Vermont Medical Monthly, Burlington.

June 25.

97 "Tubal" Gestation with Vaginal Enucleation. C. W. Strobell.
98 Old and New Treatment of Summer Complaint. Robert M. Sterrett.
99 Co-ordinate Functions of Funeral Directors and Health Officers. J. Warren Roberts.

Medical Examiner and Practitioner, New York.

August.

100 Gonorrhea: Its Influence on Life Expectancy. Ferd. C. Valentine and Terry Townsend.
101 In What Particular Can an Ophthalmic Examination Be of Any Aid to a Life Insurance Examiner? George F. Suker.
102 Abstract Diagnosis vs. Applied Diagnosis. Charles W. Eaton.
103 Significance of a Discharge from the Ear. Edward B. Dench.
104 Relation of Modern Medicine to Life Expectancy. Allison Maxwell.
105 The Significance of Indigestion. Fenton B. Turck.

Bulletin of the Johns Hopkins Hospital, Baltimore.

July-August.

106 Sensory Distribution of the Fifth Cranial Nerve. Harvey Cushing.
107 Stephen Hales, the Physiologist. Percy M. Dawson.
108 The Chemical Origin of Leucocytes. E. Schmoll.
109 Mental Phenomena and Visceral Disease. Carey B. Gamble, Jr.

Woman's Medical Journal, Toledo.

July.

110 Address, State Society, Iowa Medical Women. Jennie McCowen.
111 Status of Medical Women in Iowa. Anne Burnet.
112 Hepatoptosis or Displaced Liver. Kate A. Mason-Hogle.
113 Case of Puerperal Peritonitis Treated with Formalin Solution. Jennie G. Ghrist.
114 Ptomaine Poisoning—A Case. Martha Anderson.

Physician and Surgeon, Detroit and Ann Arbor.

July.

115 The Relation of the Catholic Church to Medicine. Frank A. O'Brien.
116 Prognosis: Its Theory and Practice. George Dock.

University of Pennsylvania Medical Bulletin, Philadelphia.

July-August.

117 Immunization Against Rattlesnake Venom. Hideyo Noguchi.
118 Tuberculous Pericarditis, Based on a Study of 7,219 Autopsies in Philadelphia Hospitals. George W. Norris.
119 Studies on Immunity Against Streptococci. D. H. Bergey.
120 Study of Formaldehyd in Milk; Its Germicidal Action and the Gradual Disappearance of It from Milk. D. Rivas.
121 Cellular and Bacterial Content of Cow's Milk at Different Periods of Lactation. D. H. Bergey.
122 Study of the Properties of the Serum of Rabbits Treated with the Adrenal Glands and Erythrocytes of Guinea-pigs. Nathaniel Gildersleeve.
123 Sanitary Supervision of the Collection and Marketing of Milk. D. H. Bergey.
124 Chronic Poisoning from Bisulphide of Carbon. Henry D. Jump and John M. Cruice.
125 A Student's Desk for the Physiologic Laboratory. Colin C. Stewart.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 20.

1 The Faliacy of Finalities. (President's Address.) Alexander Crombie.
2 *Trypanosomiasis. David Bruce.
3 Human Trypanosomiasis and Its Relation to Congo Sleeping Sickness. J. E. Dutton, John L. Todd and C. Christy.
4 *Cerebrospinal Fluid in Sleeping Sickness (Trypanosomiasis). C. Christy.
5 "First Aid" in Civil Life in the Tropics. T. H. Hendley.
6 Treatment of Dental Diseases in the Navy. N. G. Bennett.
7 Volunteer Brigade Medical Unit. P. B. Giles.

2. **Trypanosomiasis.**—Bruce lays down certain propositions, the result of his observations. 1. That the trypanosoma found in the blood of natives on the west coast of Africa and in Uganda, and those found in cases of sleeping sickness, are identical. 2. That the so-called "trypanosoma fever" is nothing but the first stage of sleeping sickness. 3. That neither the native nor the European is immune to this disease. 4. That as regards prognosis, instead of being favorable, the mortality is 100 per cent. in both the colored and the uncolored races; at the same time a percentage of the natives who have trypanosomes in their blood may kill off these trypanosomes before the disease has given rise to the pathologic changes which constitute sleeping sickness. 5. That up to the present no evidence has been brought forward to show that any of the lower animals take any important part in the spread of human trypanosomiasis. 6. That human trypanosomiasis is conveyed from the sick to the well by means of a biting fly—the *Glossina palpalis*. 7. That several members of this genus are also able to convey the virus from the sick to the healthy. 8. That there is no proof that other genera of biting flies carry the infection under natural conditions. 9. That there is no proof that *Trypanosoma gambiense* passes through any metamorphosis in *Glossina palpalis*, but that the transference of the parasites by this fly from one animal to another is purely mechanical. 10. That all the stages of development of the *Trypanosoma gambiense*, so far as is known, take place in the human host. 11. That measures for the prevention of the spread of sleeping sickness should aim at preventing, as far as possible, the movement of natives from sleeping sickness areas into any part of the country where any species of tsetse fly is found; the evacuation, if possible, of those areas, the destruction of the breeding places of the tsetse fly and of the fly itself, whenever possible.

4. **Cerebrospinal Fluid in Trypanosomiasis.**—Christy studied the cerebrospinal fluid obtained by lumbar puncture in 104 cases of sleeping sickness, and presents the following provisional conclusions: 1. That in many cases the trypanosomes never find their way into the cerebrospinal fluid, and in those cases in which they do, they are more frequently to be found toward the end of the disease. 2. That the commencement of the fever or other symptoms is in no way correlated to the entrance of the parasites to the cerebrospinal fluid. 3. That a large number of trypanosomes in the cerebrospinal fluid is rare, that when it does occur there is usually an access of temperature. 4. That the parasites may come and go in the cerebrospinal fluid as in the blood. 5. That enormous numbers may appear in the blood without appearing in the cerebrospinal fluid, and to some extent, vice versa. 6. That when trypanosomes are present in the cerebrospinal fluid, its white cell elements are apt to be increased. 7. That in cases where the parasites gain access to the cerebrospinal fluid early in the disease, mania and other head symptoms are more likely to be prominent.

The Lancet, London.

August 20.

8 Reflections Suggested by the New Theory of Matter. A. J. Balfour.
9 *Pathology and Treatment of the Herniæ of Children and Their Relation to Conditions in the Adult. E. M. Corner.
10 Electrocution on the Railway. The Dangers of the Live Rail. Thomas Oliver.
11 On the Action of Venoms of Different Species of Poison Snakes on the Nervous System. George Lamb and Walter Hunter.
12 Respiratory and Cardiac Reflex Induced by Peripheral Impressions on the Pubic Nerve During Anesthesia. Alexander Wilson.
13 Case of Latent Portal Cirrhosis with Sudden Onset of Hematemesis and Rapidly Fatal Toxemia. Robert M. McQueen.
14 *Medical Treatment of Deep-seated Hemorrhages. Francis Hare.
15 Rideal-Walker Method of Testing Disinfectants, with Special Reference to the Action of Formalin and Cyllin on the Plague Bacillus. W. J. R. Simpson and R. T. Hewlett.
16 A Cause of Intestinal Obstruction After Gastroenterostomy. H. M. W. Gray.

9. **Hernias of Children.**—Corner discusses the pathology and treatment of the hernias of children and endeavors to throw light on the origination, the treatment, and the after-effects on adults. Childhood is the time when an operation has the best chance of curing a hernia, as then, and then only, is the

surgeon's skill aided by Nature in the subsequent growth of the subject. For the treatment of the hernias of infants or children, he suggests the following: Treat with dieting, rest in bed, if necessary, a light truss, and gray powder or the like, all hernias up to the age of four or five years. The selection of this time is quite arbitrary and the proper age limit must be selected for each individual subject. Female children can naturally be treated with more effective trusses than male. Exceptions must be made from the following: (a) large or uncontrollable hernias; (b) irreducible, perhaps difficult reducible or incarcerated, hernias; and (c) strangulated hernia. In these it is better not to delay operative procedures. Many of the difficult reducible hernias of children are caused by the cecum on the right side sliding into the hernia sac without a complete peritoneal investment. This condition is called hernia en glissade. At the age of four years, or thereabouts, all hernias of children should be submitted to operation unless there are special circumstances. Particular mention may be made of (a) those with a congenital sac (the operation is now performed at the age of election); (b) those with an imperfectly descended testis; and (c) those which have been and apparently will be persistent in character. If more attention is paid to the diet and the persistence of abdominal distention of children the advisability or not of operative interference for all hernias in children which are persistent or of which the subjects are above the age of 5, the diagnosis between the acquired and congenital hernia sac, and active treatment adopted during childhood, far fewer adults would be handicapped by hernia.

14. **Medical Treatment of Deep-Seated Hemorrhage.**—Hare reduces the blood pressure in the bleeding area by promoting the fall of the general blood pressure through widespread vasodilation, and the administration of amyl nitrite by inhalation. It is applicable not only to cases of hemorrhage from some part of the systemic circulation, but also to pulmonary hemorrhage. Five consecutive attacks of hemoptysis occurring in four patients were all stopped instantaneously by amyl nitrite inhalation.

The Practitioner, London.

August.

17 *A Note on the Treatment of Syphilis. Jonathan Hutchinson.
18 The Treatment of Some Forms of Anemia. Nestor Tirard.
19 A Case of Gastro-tetany. T. Gilman Moorhead.
20 Observations on the Treatment of Neurasthenia. Charles W. Buckley.
21 Progeria: a Form of Senilism. Hastings Gilford.
22 Review of Recent Work on Blood Pressure. John M. Cowan.
23 On the Present Status of Suprapubic Prostatectomy for Enlarged Prostate. J. W. Thomson Walker.

17. **Treatment of Syphilis.**—Hutchinson describes a plan of treatment invariably pursued by him as follows: A pill is prescribed containing 1 gr. of gray powder and one of Dover's powder, and this the patient is to take after meals, and only three times a day at first. If no diarrhea follows after a few days, the pill is to be given, four, five or six times a day. All soups, fruit, and green vegetables are forbidden, and the patient is told that the treatment and the precautions must be continued without any intermission whatever for one year at least. An alum mouth wash is ordered to prevent ptyalism. The patient is allowed to continue his ordinary avocations, but is advised to spend as much time in bed as possible. If there is debility, a grain of quinin is added to the pill. Under this plan it is very rare to see any symptoms either in the throat or on the skin. Hutchinson never begins the treatment until the character of the sore is definite. In some cases it is necessary to send the patient to the seaside, and sometimes, when extensive ulceration is present, iodid of potassium is given in a fluid dose to be taken together with the mercurial pill. He regards the iodids of mercury as much less manageable than are the two given separately. As a rule, the iodids are avoided in all early stages.

Journal of Laryngology, Rhinology and Otology, London.

August.

24 Some Points in the Development of the Tympanic Plate and the Mastoid. John Cleland.
25 *The Treatment of Dullness of Hearing and Subjective Noises in the Ears by High Frequency Currents. J. G. Connal.
26 Suppurative Disease of the Temporal Bone with the Principal Extension Into the Petrous Portion. Richard Lake.
27 A Case of Tinnitus and Vertigo Treated by Division of the Auditory Nerve. R. H. Parry.
28 Résumé of Practical Deductions from Our Recent Knowledge of Suppuration of the Labyrinth. Dundas Grant.

25. **High Frequency Currents in Deafness.**—Connal has studied the influence of high frequency currents in the treatment of dullness of hearing and subjective noises in the ear. In all the cases selected other methods of treatment were ineffectual. The cases were of a class not readily influenced by ordinary methods of treatment. The types selected were: (1) chronic dry catarrh of the middle ear with secondary labyrinthine involvement; (2) chronic dry catarrh of the middle ear without marked labyrinthine involvement; (3) sclerosis of the middle ear; (4) post-suppurative conditions of the middle ear (the purulent process having ceased) leaving a cicatrix or a dry perforation with or without calcarious deposit in the tympanic membrane; (5) primary labyrinthitis (traumatic); (6) tinnitus without dullness of hearing. In all the cases both ears were involved, one ear generally being worse than the other. Results: 1. Six cases. No improvement in the hearing in any of them. In four the tinnitus persisted; two thought the noises were slightly lessened, but were not sure about it. 2. Fourteen cases. In ten, no improvement in hearing; one was worse; two noted a slight improvement in the hearing. One patient said she heard much better, but the improvement was not appreciable by any tests applied. Of the ten patients who complained of tinnitus, eight reported an improvement; two of these said they were very much better. In one case the noise disappeared entirely in one ear for six weeks, when it recurred. 3. Five cases. One patient said she heard better, but did not respond to tests; four reported an improvement in the hearing confirmed with the watch, and improvement in the tinnitus. 4. Seven cases. Four reported a slight improvement in hearing, and four of five who had tinnitus reported improvement. 5. One case. No benefit. 6. One case. No benefit. The author urges the importance of technic in the electrical treatment of these cases. The common method of applying the current is by means of the effleuve (or spray). This method was adopted in the earlier cases, but was found unsatisfactory. The method of using a condensor electrode in each ear was substituted and gave better results, probably because the current is more completely concentrated on the ears.

Bulletin de l'Académie de Médecine, Paris.

30 (LXVIII, No. 30.) *Le mouvement méthodique dans le traitement des phlébites et des varices. J. Lucas-Championnière.
31 La stomatite ulcéro-membraneuse épidemique, envisagée au point de vue de la pathogénie et de la pathologie générale. Kelsch.
32 *Quelques faits rélatifs à l'action thérapeutique du radium. Raymond and Zimmern.

30. **Treatment of Varicose Veins by Walking.**—Marchais' views on this subject were mentioned in THE JOURNAL recently, page 287. He applies massage at first for two to four weeks. This tones up the muscles and vessels and causes the absorption of the edema. The varicose subject should not stand nor walk slowly. What Marchais advises is a rapid walk, 100 steps to the minute, stopping short at the first symptoms of fatigue, then continuing when well rested. In case of recurrence of pain or edema, massage should be resumed. Elastic stockings and hot baths should be prohibited, but cold tonic baths are useful. His results with 22 patients confirm the efficacy of this mode of treatment. Lucas Championnière confirms it, and applies the same principle in the treatment of phlebitis after subsidence of fever. He is convinced that immobilization favors embolism and cites 4 cases in his experience in which fatal embolism occurred during immobilization of a fracture. He has his patients remain in bed after operations for varices, but leaves the legs free. None of his patients with phlegmasia alba dolens is immobilized and all recover with surprising promptness.

32. **Therapeutic Action of Radium.**—Raymond and Zimmern have found that radium has a remarkably soothing action on the element of pain in certain nervous affections. This effect

was particularly noticeable in tabes. The improvement and relief was marked after a few exposures. They found that the Roentgen rays also displayed great efficacy in this respect. They used a small quantity of pure radium bromid. No effect was perceptible in the merely functional neuroses. The results were also negative in a case of facial paralysis and one of facial neuralgia, but in tabes, the lightning and lancinating pains vanished as if by magic. In 4 tabetics thus treated the application of the radium tube for four minutes banished the local pains.

Presse Médicale, Paris.

33 (No. 56.) Slow Pulse and Hystero-Traumatism. Debove.—Pouls lent permanent et hystéro-traumatisme.
34 Anatomie pathologique chirurgicale et diagnostic de la gangrène pulmonaire. Auvray.
35 *Les analyses chimiques d'urine: interprétation et valeur sémeiologique. M. and H. Labbé.
36 (No. 57.) *Influence des poussées phlébitiques sur les veines variqueuses. E. Poulain.
37 Sur le diagnostic de l'hyperchlorhydrie par la recherche des matières amylacées solubles. H. Surmont.
38 *Prophylaxie du tétanos par l'emploi du serum antitétanique sec et pulvérisé. M. Letulle.
39 (No. 58.) *L'intervention chirurgicale dans la gangrène pulmonaire: technique opératoire, résultats, indications. Auvray.
40 Autopsie de la moelle épinière; instrumentation spéciale (dissection of spine). Chavigny.
41 (No. 60.) II Congrès de l'Association des médecins de langue française de l'Amérique du Nord (Montreal, 28-30, Juin, 1904). E. Saint-Jacques.
42 Discours du professeur Pozzi (address).
43 *Impressions d' Amérique. J. L. Faure.
44 (No. 61.) Abcès chauds du sein (mammary). Tillaux.
45 Prophylaxie du paludisme dans l'isthme de Suez. A. Pressat.
46 Quelques considérations sur la technique des lavages urétro-vésicaux. Melun.
47 (No. 62.) Sur la pathogénie de l'hydronéphrose intermittente. P. Bazy.
48 *L'insuffisance langerhansienne. Thoinot and G. Delamare.

35. **Chemical Analysis of the Urine.**—Labbé states that a rational interpretation of the findings in the urine is possible only when the intake of salt, etc., is known. No arbitrary standard can be established. To say that the amount of salt normally eliminated is 10 to 12 gm. a day may happen to be true for a certain individual one day, but is liable to be erroneous the next day, when he takes more milk than usual or his cook has been too generous with her seasonings. The chemical findings are of import only when the ingesta and the excreta are compared. A healthy individual normally eliminates exactly as much material as he takes in. The human machine is only a transformer of energy. The salts and the nitrogen are found in the urine in approximately the same proportions in which they were ingested. Analysis of the urine imparts no information in regard to the carbohydrates and fats, the products of whose final transformation are eliminated by the lungs.

36. **Cure of Varicose Veins by Intercurrent Phlebitis.**—Poulain has observed a case in which the varicose saphena vanished as a result of a grippal phlebitis. The indurated vein was replaced by a groove perceptible to the eye. The leg presents occasionally slight edema near the ankle, it tires more readily during a long walk, and there is once in a while some formication. These are the only traces left of the extensive varicose enlargement and severe phlebitis. The complete obliteration of the superficial veins seemed to have a favorable influence in this case.

38. **Prophylaxis of Tetanus with Pulverized Serum.**—Letulle washes out the wound with boiled water for fifteen minutes and then dusts it thick with dried, pulverized antitetanus serum, and covers with gauze. This treatment is repeated every day until healing is complete. This mode of prophylaxis is called the "Calmette method," and Letulle urges its general adoption.

39. **Surgical Treatment of Gangrene of the Lungs.**—Auvray reviews the international literature on the subject and states that the post-operative mortality has been only 40 per cent. in the last series of 63 cases of gangrene of the lungs treated by surgical intervention. Tuffier's last 11 cases have had a mortality of only 36 per cent. The operative mortality is less in case of gangrene consecutive to pneumonia or bronchitis or their combination than when it is consecutive to bronchiectasia, foreign bodies, wounds, embolism or perforation of the esophagus. Patients seen again a few years afterward have been found normal or, in a few instances, the shape of the thorax was somewhat altered and respiration slightly affected. The remote results depend, of course, on the character of the causal affection, a chronic process seldom permitting complete restitution. With such a process both lungs are usually more or less degenerated. Treatment should be early and extensive pneumotomy.

43. **Impressions of America.**—In this interesting summary of his hurried trip through America, including Quebec and Mexico, Faure comments on the famous marble operating room at Mount Sinai Hospital, New York, as the handsomest he has ever seen, with its marble doors, but as a useless prodigality. He does not think the American operating tables compare favorably with the French, while the American instruments for general surgery and gynecology impressed him as heavy, primitive, and sometimes even coarse. He says that instruments of this kind, to be delicate, supple and strong, have to be made by artists, working with brain as well as hand, and can not be turned out by machinery. He makes the statement that in America "the free hospital—the hospital for the poor—does not exist, perhaps because there are not many poor people, or at least, everyone, from the richest to the poorest, considers it natural and legitimate to pay for the care he receives and the time devoted to him. Another reason may be that the towns are, many of them, too new for an official 'assistance publique' to have been organized." He comments with decided approval on the system of having rooms for rich paying patients under the same roof with free wards, a custom which he hopes will be introduced in France. The union of hospitals with politics here he qualifies as deplorable, much preferring the French system of competitive examinations with all its defects.

48. **Langerhans Insufficiency.**—Lesions in the islands of Langerhans have been found in 130 out of 167 diabetics examined from this point of view. Thoinot and Delamare found them in their cases of "lean" diabetes, not in the "fat" variety, nor in the pancreas of 10 control subjects with various affections. They are not found in nervous diabetes nor in toxic glycosuria. These lesions are frequently associated with lesions of the other parts of the gland, but are sometimes the only lesions to be detected. The explanations offered by various writers do not withstand scrutiny except the theory that certain cases of diabetes are the manifestation of insufficiency of these islands of Langerhans. This suggests the possibility of an effectual organ treatment of such cases, using an extract of the tail of the pancreas from young animals.

Berliner klinische Wochenschrift.

49 (XLI, No. 31.) *The New "Academy for Practical Medicine" at Cologne. O. Minkowski.—Zur Eröffnung der "Akademie für praktische Medicin" in Cöln.
51 *Freezing Point of the Blood in Cancer Subjects. K. Engel (Koranyi's clinic, Budapest).—Ueber die Gefrierpunktserniedrigung des Blutes bei Krebskranken.
52 Atheromatosis aortæ bei Kaninchen nach intravenösen Adrenalin-Injectionen (in rabbits). C. v. Rzentkowski.
53 Rare Family Nervous Affection. O. Maas.—Ueber ein selten beschriebenes familiäres Nervenleiden.
54 Elektromagnetische Therapie. C. Lilienfeld.

49. **The "Academy for Practical Medicine" at Cologne.**—An important innovation has been introduced into Germany in the inauguration of these new "academies." They are intended to serve as centers for postgraduate instruction. Cologne leads, but will soon be followed by Frankfort, Düsseldorf and other cities where there is no university. The innovation is regarded with some apprehension by the general practitioner, fearing that it may cut into his sphere of activity, but the city authorities affirm that they were impelled to this step by the interests of the medical profession and by the growing conviction of the importance of this profession for the general welfare. These convictions have impelled the city authorities to exact contributions from their fellow-citizens in order to promote the further professional perfecting of physicians, that they may better serve the general welfare. The aim of the new "academies" is to utilize for postgraduate instruction the vast material in the hospitals now going

to waste in many of the cities. They do not aim to train specialists, but they hope to render the general practitioner proficient in the specialties. The plan of organization tentatively adopted has four departments in view: the training of newly fledged M.D.'s during their compulsory year as "praktikants;" postgraduate training of established physicians; training in specialties, and promotion of scientific research.

51. **Freezing-Point of Blood in Cancer Subjects.**—Engel did not find the molecular concentration of the blood abnormal in any of the cancer subjects examined.

Centralblatt f. Chirurgie, Leipsic.

55 (XXXI, No. 31.) Zur Mitteilung "Ueber plastische Wanderlappen" (migrating flaps). von Hacker (Graz). Claim for priority.

Centralblatt f. Gynäkologie, Leipsic.

56 (XXVIII, No. 21.) *Prevention of Puerperal Fever. P. Zweifel.—Ueber die Verhütung der Fieberfälle im Wochenbett.
57 *Intraperitoneale Ligamentverkurzung mit ausschliesslicher Verwendung von Catgut als Fixations-Material. Menge.
58 *Physostigmin nach Laparotomien. K. Vogel (Bonn).
59 (No. 22.) Proportions Between Sexes Born. B. S. Schultze (Jena).—Zum Problem vom Geschlechtsverhältnis der Geborenen.
60 *Vulva-Edem und Dammriss (laceration of perineum). A. Sittner.
61 (No. 23.) Ueber die pathologische Histologie der Oophoritis chronica. C. Pinto.
62 *Graviditäts-Psychose; Abortus provocatus; Genesung. H. Treub (Amsterdam).
63 (No. 24.) Studien zur Physiologie des Uterus. K. Franz.
64 *2 neue Fälle von Restitutio vaginæ per transplantationem ani et recti. W. F. Sneguireff (Moscow).
65 (No. 25.) *Zur Lagerung der Arme in der Narkose. Torggler and R. Puschnig.
66 *Weighted Compresses. Burcher and O. Rossel.—Plombierung um das Zurucklassen von Tüchern in der Bauchhöhle bei Laparotomien zu vermeiden.
67 *Zur Laparotomie-Technik. S. Gottschalk.
68 Zur Publikation: "Eine modifizierte Kugelzange von O. Frankl." Peters.
69 (No. 26.) *Prevention of Fever in Parturients. A. Mueller. Ibid. W. Bokelmann.
70 Fall von abnorm langer Retention des am normalen Schwangerschaftsende abgestorbenen Foetus. J. Goldenstein (Jassy). Four months' retention. No disturbances.
71 (No. 27.) *Schonende oder forcierte Entbindung bei Eklampsie (expectant or forcible delivery). A. Sippel.
72 *Button Guide for Puncture Canula. S. Flatau (Nuremberg).—Zur Erleichterung der Punktion von der Vagina aus.
73 Vaginal Cesarean Section for Placenta Previa. S. Dührssen (Berlin). (Reply to articles in No. 20.)
74 (No. 28.) *Zur prophylaxe der postoperativen Cystitis bei Frauen. P. J. Israel and P. Rosenstein.
75 Doppelseitige Ovariotomie im Anfange der Gravidität. Ausgetragenes Kind. E. Essen-Möller (Lund).
76 New Examining Sofa. de Seigneux (Geneva).—Ein neuer Untersuchungs-Divan.
77 (No. 29.) *Reply to Menge in No. 21. L. Kleinwächter.
78 *Zur Wahrung meiner Priorität. K. Beck (New York). See abstract 74, on page 686, vol. xlii.
79 Spontane Ventrofixation des Uterus als Ursache schwerer Nachgeburtsstörungen. O. Fuchs (Breslau).
80 *Ueber ein einfaches Verfahren zur sicheren Katheter-Sterilisierung. W. J. Gusseff (Moscow).
81 (No. 30.) *Zur Hebotomie. T. H. van de Velde (Harlem).
82 (No. 31.) Zur Behandlung der postoperativen Darm-Paralyse mit Physostigmin. Pankow (Jena). Negative results from preventive treatment of intestinal paralysis.

56. **Prevention of Fever in Parturients.**—Zweifel shows that all the modern efforts for asepsis in maternity cases have not resulted in any decrease in the number of febrile cases. The mortality has been wonderfully reduced, but the number of patients developing fever has not been materially diminished. He thinks that the principles of surgery should be applied more to obstetrics, especially the principle of wiping the parts dry of blood. He noticed that one or two small clots of blood usually lurk in the recesses of the vagina, and thinks that decomposition of these clots is sufficient to explain the febrile course. If a woman is examined half an hour to an hour after delivery of the after-birth, one or two clots, as large as a walnut, will almost invariably be discovered in the fornix vaginæ. He removes these clots with a dry sponge, as they are in any event entirely superfluous and may cause trouble as they decay. All his lying-in patients have been wiped dry in this way since last October, the operation done with rubber gloves. The percentage of febrile cases dropped at once after this innovation was introduced so that in 94.3 per cent. of all the normal maternity cases the temperature was normal throughout, a result never before attained. There were only 14 febrile cases in 243 births, and, in fact, only 3.3 per cent. developed fever which could be attributed to the genital tract, out of the total 5.7 per cent. febrile cases. During the few weeks in which the vagina was wiped dry without gloves the proportion of febrile cases increased. During previous years the proportion of febrile cases has ranged from 32 per cent. in 1890 to 21.4 per cent. in 1901, and 16.2 per cent. in 1903, the average for the nineties being 28.34 per cent. and from 1899 to 1903, 19 per cent. The reduction since 1899 followed the introduction of gloves. The pathogenic germs can readily find their way from without to these clots lurking in the vagina, and might easily originate fatal infection in them. Hence it follows that the wiping away of all clots of blood should be regarded as one of the routine prophylactic measures in maternity cases. It should always be done under dry asepsis, and by the physician. Zweifel adds that irrigation of the vagina before or during delivery is always superfluous and liable to be dangerous, but this dry wiping away of the blood is an important, decided forward stride in the prevention of puerperal fever.

57. **Intraperitoneal Shortening of the Ligaments with Catgut.**—Menge considers every backward displacement of the uterus as necessarily pathologic. He fastens the uterus in an approximately normal position by taking up a loop in each round ligament and suturing this loop with a row of stitches down the middle to make it solid. He then brings the ends of the loops together and sutures them firmly to the uterus underneath. The loop is taken in the part of the ligament close to the uterus, and a single fine catgut thread is sufficient to insure solid fixation. The operation is particularly useful after wedge-shaped excision of the tubes, the loops of the ligaments being folded over the turned-in raw surfaces. The technic is fully illustrated.

58. **Physostigmin After Laparotomies.**—Vogel's experience with physostigmin as a preventive of post-operative ileus has been very favorable. He has been using it for three years, injecting .0004 gm. physostigmin three or four times during the day, giving the first injection before the patient leaves the table, and supplementing it later with a glycerin enema if necessary. When ileus has developed the physostigmin may be tried, but should not be forced.

60. **Vulvar Edema and Laceration of Perineum.**—Sittner explains edema of the vulva as a natural process to protect the perineum against laceration. The vulvar ring is enlarged and the tissues become more elastic.

62. **Gravidal Psychosis Cured by Induced Abortion.**—Treub's patient was a ii-para in the fourth month. She had been reading Victor Hugo's "Notre Dame de Paris," and had become convinced that the child she was bearing would prove to be a monster. Her psychosis was so pronounced that she tried to commit suicide to destroy the monster, and Treub finally induced abortion, which was followed by complete recovery.

64. **Restitution of Vagina by Transplantation of Anus and Rectum.**—Twelve years ago Sneguireff reported a case of this kind. The result of the operation was complete and permanent. Coitus has been rendered apparently normal and the artificial anus made in the place of the excised coccyx functionates normally. He does not know of anyone's having repeated the operation, but its perfect success encouraged him to try it again in 2 cases during the last year or so in which it was indicated. The patients were young married women who had never menstruated although the molimen recurred regularly, and one had vicarious epistaxis. This one applied immediately after her marriage to know why coitus was not possible. In the other patient the urethra had been used unwittingly in place of the vagina, and she applied only for relief from a laceration of the urethra. The vagina in each case was merely an inch-deep recess. The operation was done under ether; the coccyx was removed; the rectum was mobilized, brought out through the incision and cut across. The edges of the lower stump were turned in and sutured together to make the top of the new vagina. The proximal stump was sutured to the skin, embedded in the muscles in such a way that the fibers of the levator ani co-operated in the functioning of the new anus, which was in fact the sphincter ani tertius.

The pelvis was then raised, and through the natural anus the wall dividing the rectum and anus from the vagina was incised; the mucosa lining of the vagina was sutured to the mucosa lining of the rectum and anus. The incised anus thus sutured to the small orifice of the vagina presented a striking resemblance to normal aspect and conditions. Defecation was suppressed for six days, then castor oil was given, and the sutures removed. The new anus was incontinent at first, but after a month, formed feces could be retained and evacuated at will in the first case, and in less than three weeks in the other. The results of the operation have realized all that was anticipated. The three steps of the operation are shown in diagrams.

65. **Management of the Arms During Narcosis.**—In all vaginal operations Torggler crosses the arms of the patient on her breast, the hands touching the elbows, and draws up the front of the chemise over them, tucking it in above the arms. This holds them and prevents nerve paralysis from compression at any point. During ten years of experience he has had but a single chloroform death in 866 narcoses, and this was a purely heart accident, occurring before the narcosis had really commenced.

66. **Weighting the Compresses for Laparotomies.**—Bircher fastens a small weight—2.5 to 3 gm.—to one corner of each compress, using a stout linen thread for the purpose, about a foot long. As the compress is used in the abdominal cavity, the weight is tossed to the length of the string and lies on the operating sheet. He has been using this device for ten years, and has never failed to recognize and remove every compress without dread of any having been left inside. He criticises Kreutzmann's method as too laborious and time-wasting.

67. **Laparotomy Technic.**—Gottschalk advocates in operating to draw the tumor or organ being operated on out of the abdominal wound and close the incision behind it as far as possible. The weight of the tumor will aid in detaching it. He insists that the surgeon should ask himself in every case whether it is not possible to close the abdominal cavity as soon as the tumor is drawn out instead of waiting until later. Also that the operation should be done outside of the abdominal cavity as far as possible. He describes in detail a case of myomotomy, with amputation in the collum, performed under these principles. They obviate the necessity for raising the pelvis.

69. **Prevention of Puerperal Fever.**—Mueller endorses Zweifel's remarks, cited above. He goes still further and advocates removal of all clots of blood from the uterus itself, as well as from the vagina. He accomplishes this with what he calls a "scraping-rinsing-catheter." It consists of a stout metal tube, the tip surrounded by a comb with wedge-shaped incisions, the outer edges slightly rough like a file. By twisting this tube, in contact with the walls of the uterus, all the clots of blood and scraps of membranes are detached from the walls of the uterus and swept out by a stream of hot water turned on through the tube. The instrument thus combines the removal of all scraps and clots liable to decay, with mechanical stimulation, and the action of heat in the hot rinsing. He has been using it for three years and has been delighted with it. He has not had occasion to tampon the uterus on account of hemorrhage or apply compression, except in a few rare instances, since he has been using this scraper. He adds that puerperal fever is sometimes due to decay of fecal masses, and advises energetic castor oil purges and repeated high enemata as a means of preventing infection from this source. He classifies his febrile cases as those which can be cured by energetic purgation and those with fetid lochia which can be cured by energetic rinsing of the uterus. The class of cases which do not respond to these measures are the true septic puerperal fevers, due to some primary, previously existing pus focus in the appendix, annexes or elsewhere, which has been encapsulated and caused no trouble until disturbed and the walls broken down by the trauma of the birth act, or else to infection from without, due to the attendants or the patient herself. This latter cause is becoming rarer and rarer under modern methods. The physician should seek to discover and render harmless the primary focus, possibly resorting to intravenous silver injections according to Credé.

Bokelmann discusses the same subject but denounces Zweifel's views. He proclaims that the parturient woman should be regarded as a *noli me tangere*, and that the application of the principles of modern surgery to the physiologic process of childbirth is liable to be attended by the most serious consequences. He thinks that dry asepsis is unattainable in the normal vagina after delivery, while attempts to realize it throw wide the portals for infection. His motto is: "The strictest asepsis for everything that comes in contact with the birth passages, and strictest avoidance of every contact with the birth canal not absolutely required."

71. **Delivery in Eclampsia.**—Sippel has always been an advocate of expectant treatment of eclampsia, but his recent experience has converted him to the opposite view. He now proclaims that there is only one thing yet known positively in regard to eclampsia, and that is, that it is a consequence, a product of pregnancy. This being the case, the logical treatment is to remove the cause, that is, to put an end to the pregnancy.

72. **To Facilitate Puncture Through the Vagina.**—Flatau uses what he calls a "guide button" on the canula to protect the parts from injury. It is an elliptical, elastic ball which is placed over the tip of the canula. When the latter is forced into the tissues the ball slips back on the canula.

74. **Prevention of Postoperative Cystitis.**—The double catheter used in Israel's clinic is made in such a way that the inner tube does not come in contact with the walls of the urethra at any point, as it is not pushed out of the outer tube until the latter reaches the entrance into the bladder. It is thus possible to rinse out the bladder as frequently as deemed necessary, without fear of infection. In 34 cases of serious operations the bladder was thus rinsed from 6 to 21 times without a single mishap with the exception of one case, in which the vitality of the bladder had already been seriously compromised. He does not attempt to enumerate the cases in which the double catheter was used less than 5 times. He thinks that this principle of absolute asepsis and frequent irrigation is the right one for the prevention of post-operative cystitis.

77 and 78. **Intraperitoneal Shortening of the Ligaments.**—Kleinwächter criticises Menge very sharply for announcing as new the method of surgical treatment of retrodisplacement of the uterus briefly outlined in abstract 57 above. Kleinwächter reproduces the cut from Palmer Dudley's article, published fourteen years ago, in which the latter describes what is essentially the same operation. The only difference seems to be in favor of Dudley's technic, namely, that a larger surface is freshened. Kleinwächter sarcastically comments that it is usually expected that a specialist and especially a professor, should be thoroughly posted in the history and literature of his specialty. Professor Menge, he adds, is proof of the fact that there are exceptions to this rule. In the following article Beck of New York claims priority for the operation recently promulgated by Bardescu, mentioned on page 686 of the last volume.

80. **Sterilization of Catheters.**—Gasseff uses an ordinary nickel tube to hold the catheter. One end has four holes bored through it, through which 2 wires are passed at right angles, forming a support for a wad of cotton which keeps the catheter from dropping out. The other end of the tube is stoppered with cotton. These tubes are inexpensive, never break or wear out, and there has not been a single case of infection in more than 4,000 catheterizations in which the catheters were sterilized in these tubes. A dozen or so of the tubes at a time are placed in the autoclave together. After the catheter is used, it is boiled in soda solution with the tube; fresh cotton is put in, then the catheter and the stoppered tube is placed in the autoclave.

81. **Hebotomy or Extramedian Symphyseotomy.**—The particulars of the 4 cases in which van de Velde has performed this new kind of symphyseotomy are related in detail. He

styles the operation "extremely simple, typical, rational, convenient, with little trouble for the patient, a really ideal operation, and the only one able to save the child alive in many cases." One of his first patients has passed since through a normal pregnancy and delivery, the pelvis having been so enlarged by the hebotomy that delivery proceeded normally. The operation has not affected the gait in any instance. He coins the word hebotomy from the Greek term for pubis. The previous notices of the operation will be found on page 133 of vol. xl, and 231 of vol. xxxix.

Therapie der Gegenwart, Berlin.

Last indexed page 436.

83 (XLV, No. 8.) *Treatment of Tendency to Kidney Stone Formation. G. Klemperer.—Die Behandlung der Nierenstein-Krankheit.
84 *Local Hot Air in Treatment. M. Jerusalem.—Einiges über lokale Wärmebehandlung.
85 Die mechanische Behandlung des Emphysems. H. Wolf.
86 Critical Review of Recent Publications on Infant Feeding. H. Finkelstein.—Sammelreferat.

83. **Treatment of Tendency to Kidney Stone Formation.**—Klemperer believes that it is possible to prevent stone formation in the kidneys by appropriate dieting. When dieting is inconvenient the same results can be attained with alkaline mineral waters used copiously, or even with artificial substitutes for the mineral waters. He tabulates the results of a number of clinical and experimental researches which sustain these assertions in regard to urate concrements. The oxalates are dissolved when 2 gm. magnesium sulphate are given once or twice a day with a mixed diet. He advises giving .5 magnesium sulphate four times a day when vegetables or milk or eggs are being copiously eaten. This serves to prevent oxalate crystallization. Mineral waters are also useful, but by no means to the same extent as with the urates. Phosphate concretions are generally due to overexcitability of the nervous system, entailing gastric hyperacidity. His researches have also shown that already formed concrements can be dissolved by the copious use of mineral waters. A course at a watering place is not at all necessary if the required hygiene is followed at home. In any event, the hygienic and other measures must be kept up for years or one's entire life, to ward off threatening trouble from this source. Cystin stones are the expression of a constitutional anomaly in the metabolism, like diabetes, and the tendency to their formation should be combated by the usual measures and restricting the albuminoids in the diet to such as contain little, if any, preformed cystin. Egg and plant albumin contains much less cystin than serum albumin and fibrin.

84. **Local Application of Heat.**—Jerusalem relates his favorable experiences with dry hot air applied to the treatment of erysipelas and streptococcic phlegmons. He thinks cold applications are contraindicated in case of inflammation, citing Bier, who proclaims that cold applications are liable to transform an acute and curable process into a chronic, incurable one. Warmth is always agreeable in case of inflammation, and is actually the best analgetic at our command. It has also displayed remarkable power as an analeptic and absorbent. Thermophore compresses are the most convenient, but heated, dry cloths or bags of sand are equally efficient. Phlegmons on the limbs have been effectually treated with prolonged local baths as hot as the patient can bear.

Wiener klinische Rundschau.

Last indexed page 577.

87 (XVIII, No. 26.) *Die röntgenologische Untersuchung der Schädel-Basis (of skull). A. Schüller and I. Robinsohn.
88 (No. 29.) *Ueber den Einfluss der Credé'schen Silber-Therapie auf die den Tuberkel-Bazillus begleitenden Bakterien. M. Behr.
89 *Surgery and Alcoholism. O. Polak.—Ueber die Beziehungen des Alkoholismus zur Chirurgie. (Commenced in No. 26.)
90 (No. 30.) Die Prokto-Sigmoideskopie. F. Schilling.
91 (No. 31.) *Comparative Value of Natural and Artificial Infant Feeding for Animals. H. Brüning (Leipsic).—Vergleichende Studien über den Wert der natürlichen und künstlichen Säuglingsernährung bei Tieren.

87. **Roentgen Views of the Base of the Skull.**—All the parts of the base can be skiagraphed, but they require frontal, sagittal, axial or oblique exposures for varying conditions. Most of the anomalies in this region show up well, and Roentgen examination is a valuable aid in diagnosis. Two fine, nearly life-size skiagraphs are given, one of a normal and the other of a cretin man. The differences are striking and characteristic.

88. **Influence of Collargol on Bacteria Accompanying Tubercle Bacilli.**—Behr writes from a tuberculosis sanatorium to describe his experiences with 14 cases of tuberculosis treated with collargol to control the mixed infection. He was impressed with the way in which the pyogenic germs accompanying the tubercle bacilli were influenced by the collargol, which displayed marked therapeutic action in this respect. The tuberculous process was also favorably influenced, but as this result is always obtained in the sanatorium, he does not venture to ascribe the benefit in this respect to the collargol. Further tests in this direction should be instituted in dispensary treatment of tuberculosis where the patients remain in their usual environment. In 7 out of 10 patients the number of cocci in the sputa was found very much reduced, the sputa also diminished. He administered the collargol by the mouth and rectum, buying 100 gm. in substance and dissolving it in distilled water to make a 1 per cent. solution. He gave one tablespoonful of this twice a day, supplemented by 30 c.c. given per rectum. Each patient thus received .5 gm. silver per diem. This was kept up for one to eight weeks in 14 cases, with an average of seven weeks, or 110 days.

89. **Relations of Alcoholism to Surgery.**—Polak remarks that the number of drunkards is comparatively limited in Bohemia, the official records showing only 4 to each thousand inhabitants. Neison's figures report 1 to each 145 inhabitants in England. Polak argues that the surgeon must be versed in the detection of acute and chronic alcoholism, as it has such a marked influence on the outcome of his work, and he should know how to combat it. If a very tipsy subject requires surgical intervention at once, he should be prepared by copious lavage of the stomach, caffein in case of weak heart action, and, in case of insufficient respiration, it should be promoted artificially and .002 gm. atropin be injected several times. Tepid baths with cold water poured on the head and back of the neck are also useful. In chronic alcoholism the surgeon has to distinguish between the three stages. In the first he has to anticipate only a somewhat severer and stormier narcosis, and the tendency to fat in the subcutaneous tissue sometimes interferes with primary healing. The last stage, the "premature senile" stage, is a contraindication to any major operation, as body and mind are too much countermined. In the middle stage the resisting powers are weakened. Narcosis of such a subject is likely to be a difficult affair, but it sometimes happens that after such a subject is once fully narcotized the operation can be continued without further use of the narcotic, as he lies tranquil without experiencing any special pain. Polak reviews the experiences with alcoholics at Maydl's clinic at Prague. He found that the wound suppurated in 7 per cent. more of the alcoholic subjects than in the others, and the mortality among them was greater, gangrene claiming 31.8 per cent.; abscesses and phlegmons, 35.7, and erysipelas, 14 per cent., while the corresponding mortality among the non-drinkers was from gangrene, 17 per cent.; abscesses, 7.9, and erysipelas, 9 per cent. These infectious, febrile suppurative processes are especially hard on drinkers. A trophoneurotic hemorrhagic bladder affection was noted in one, and the bones were found more fragile in them. Fat embolism occurred in 2. He regards large doses of strychnin as the most approved means of curing the psychosis underlying dipsomania, citing Portugalow's experience of 455 drunkards cured with strychnin. Delirium tremens is frequently brought on by traumatism, and is always a very serious complication even with slight surgical injuries and operations.

91. **Artificial Feeding of the Young of Animals.**—An interesting series of researches are here described showing the growth of young goats fed with sterilized milk according to the rules of infant feeding. The various particulars are tabulated and compared with the growth of normal suckling kids. The results confirm the theoretical views in regard to the incomparable superiority of the mother's milk for the growth of the young.

Brazil Medico, Rio de Janeiro.

Last indexed page 232.

92 (XVIII, No. 21.) *Treatment of Yellow Fever by Anti-Ophidic Serum. Bettencourt Rodrigues.
93 (No. 22.) Hematologia da febre amarella (yellow fever). A. A. de Azevedo Sodré.
94 (No. 23.) *Frequencia do cancer no Brazil. Ibid.
95 (No. 24.) A paranoia e os syndromas paranoides. J. Moreira and A. Peixoto. (First part in No. 21.)
96 Congestœes e apoplexias. A. de Mello.
97 Contribuiçao ao estudo da ataxia locomotora progressiva. Papadopoulos.
98 (No. 25.) Conferencia sanitaria internacional. See notice, page 412.
99 (No. 26.) Theoria da immunidade. J. Mendez.
100 Contribuiçao ao estudo da "bouba brazileira" (endemic ulcer). J. Moreira and A. Austregesilo. (Commenced in No. 25.)
101 (No. 27.) Prophylaxia publica da syphilis e enfermidades venereas. A. Peixoto.
102 *Um novo antidiabetico. O. de Freitas (Pernambuco).
103 Festival Meeting of Academia Nacional de Medicina, 75th Anniversary. See notice page 617.

92. **Treatment of Yellow Fever with Anti-ophidic Serum.**—Rodrigues' statements in regard to the efficacy of treatment of yellow fever with a serum made to combat the bites of poisonous snakes of Brazil, have not been confirmed by the experiences of others. Carlos Seidl and Marchoux and Simond gave the method a trial, but met with negative results. The first to suggest serum treatment of yellow fever was Professor Miguel Couto, of Rio, who treated several yellow fever patients with serum from convalescents. His communication on the subject was published in the *Brazil Medico* of April 22, 1892. Rodrigues reports rapid recovery of 24 yellow fever patients, with but one exception, under treatment with anticrotalic and antibothropic serum.

94. **Cancer in Brazil.**—This article by Professor Sodré, editor of the *Brazil Medico*, was presented at the recent Latin-American Congress. His figures show that cancer is comparatively rare in Brazil, although at certain points the number of cases has increased during the last few years. There is an unmistakable connection between the frequency of cancer in Brazil and the climate, the number of cases varying with the latitude. In the extreme north, the equatorial portion of the country, cancer is exceptional. The number of cases increases toward the tropic of Capricorn, and reaches its maximum in the extreme south, where the climate approximates that of the European Mediterranean countries. In Brazil cancer locates with marked predilection in the uterus. Stomach and liver cancers are very much less frequent. He gives a comparative table of the mortality from malignant disease in various cities of the world per 10,000 inhabitants. In Paris this proportion was 11.8; in London, 6.8; in Boston, 7.9; in New York, 6.2, while in Bahia it was only 1.9, and in the most affected center, Rio de Janeiro, only 2.8. In other tables he gives the same figures for the countries, France heading the list with 9.8 per 10,000 inhabitants; England with 7.6; United States, 3.4; Tasmania, 5; New Zealand, 4.4, and Brazil, 0.41.

102. **New Remedy for Diabetes.**—De Freitas announces that an indigenous tree, the ironwood, has remarkable anti-diabetic properties. He uses an alcoholic tincture of the inner bark, and reports its success in 8 cases of diabetes with sugar in amounts of 15, 26 and 30 gm. or thereabouts, in the urine. Examination a few days after taking the "pao ferro" showed entire absence of sugar in every instance. The scientific name of the tree is the *Dialium ferrum*. The uniformity of action observed in the 8 cases, the complete cure and its permanence to date, compel him to publish his results without waiting for further confirmation.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A HANDBOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY, with an Introductory Section on Postmortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M.D., LL.D., Emeritus Professor of the Practice of Medicine, College of P. and S., Columbia University, New York, and T. Mitchell Prudden, M.D., LL.D., Professor of Pathology and Director of the Department of Pathology, College of P. and S., Columbia University, New York. Seventh Edition. With 13 Full-page Plates and 545 Illustrations in the Text in Black and Colors. Cloth. Pp. 885. Price, $5.00 net. New York: Wm. Wood & Co. 1904.

THE PRACTICE OF OBSTETRICS. Designed for the Use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. Second Edition, Revised. With 1,264 Illustrations, Including 5 Colored Plates and 38 Figures Printed in Colors. Cloth. Pp. 1,152. Price, $6.00. Philadelphia: P. Blakiston's Son & Co. 1904.

A TEXT-BOOK OF ALKALOIDAL THERAPEUTICS, Being a Condensed Résumé of All Available Literature on the Subject of the Active Principles Added to the Personal Experience of the Authors. By W. F. Waugh, M.D., and W. C. Abbott, M.D., with the Collaboration of E. M. Epstein, M.D. Cloth. Pp. 405. Price, $2.50 postpaid. Chicago: The Clinic Publishing Co. 1904.

A MANUAL AND ATLAS OF MEDICAL OPHTHALMOSCOPY. By Sir William R. Gowers, M.D., F.R.C.P., F.R.S. Fourth Edition. Edited by the Author and Marcus Gunn, M.B., F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital. Cloth. Pp. 318. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1904.

CLINICAL LECTURES ON MENTAL DISEASES. By T. S. Clouston, M.D., Edin. F.R.C.P.E., President of the Royal College of Physicians of Edinburgh. Sixth Edition. Cloth. Pp. 738. Price, $4.25. Philadelphia and New York: Lea Brothers & Co. 1904.

CLINICAL URINOLOGY. By Alfred C. Croftan, Professor of Medicine, Chicago Post-Graduate Medical College and Hospital. Illustrated. Cloth. Pp. 298. Price, $2.50 net. New York: Wm. Wood & Co. 1904.

TRANSACTIONS OF THE SEVENTY-FIRST ANNUAL SESSION OF THE TENNESSEE STATE MEDICAL ASSOCIATION, Chattanooga, 1904. Cloth. Pp. 422. Press of Southern Publishing Association, Nashville, Tenn.

TRANSACTIONS OF THE ARKANSAS MEDICAL SOCIETY. Twenty-ninth Annual Session Held at Texarkana, Ark., May 3, 4 and 5, 1904. Cloth. Pp. 378. Press of Arkansas Democrat Co., Little Rock.

NEW PATENTS.

Patents recently granted that are of interest to physicians:

765538. Pocket pill safe. John W. Acker, St. Louis.
765469. Shade for *x*-ray tubes. Robert Friedlander, Chicago.
765470. Electric therapeutic apparatus. Robert Friedlander, Chicago.
765472. Hygienic medicated belt. Thomas O. Gasaway and J. S. Aydelotte, Ind.
765361. Device for eradicating facial wrinkles. Wm. B. Hargrave, Colfax, Wash.
765389. Operating table. Florus F. Lawrence, Columbus, Ohio.
765293. Truss, Henry B. Morris, Midvale, N. J.
765369. Stretcher. Elphinstone M. Smith and J. Ferrin, Oakland, Cal.
765530. Medical battery. George F. Webb, Geneva, Ohio.
765261. Suspensory. Wm. S. Wise, St. Louis.
766135. Microtome. Edward Bausch and G. Hommel, Rochester, N. Y.
765879. Dilator. Wilber A. K. Campbell, Chicago.
766106. Vaginal syringe. Hubert T. Foote, New Rochelle, N. Y.
765887. Otoscope. Peter T. Geyerman, Brewster, Minn.
765733. Bandage rest. Wm. S. Hubbard, New York.
765898. Extracting soluble albumen from milk. Charles Lewis, Toronto, Canada.
765746. Massage apparatus. Walter Miner, Creston, Iowa.
765984. Foot for crutches or canes. John W. Morris and G. J. Luck, Milwaukee, Wis.
766057. Spring forceps. John Muller, Brooklyn.
765793. Surgical bridge. John F. Ruckel, Chicago.
766069. Means for facilitating internal flushing or syringing. John D. Sourwine, Brazil, Ind.
766121. Holder for serums. Frederick K. Stearns, Detroit.
765943. Making a substitute for cod-liver oil. Karl F. Tollner, Bremen, Germany.
765690. Apparatus for producing gyratory magnetic lines of force for therapeutic purposes. Rheinhold Trub, Hombrechtikon, near Zurich, Switzerland.
766336. Vaginal irrigator. Charles O. Carrington, Palestine, Tex.
766686. Artificial limb. Alexander Gault, Medford, Minn.
766688. Bottle stopper and dropper. Wm. T. Goldsmith, Washington, D. C.
766344. Packaging of medicines for hypodermic purposes. Herman H. Hager, Detroit.
766367. Cheek plumper. Olive L. Mayes, Evanston, Wyo.
766720. Clinical thermometer. Christian W. Meinecke, Jersey City, N. J.
766523. Pasteurizing apparatus. Alban H. Reid, Philadelphia.
766743. Physical exerciser and developer. Alfred E. Terry, Redditch, England.
766203. Hypodermic syringe. Ralph Walsh, Washington, D. C.
766204. Hypodermic syringe. Ralph Walsh, Washington, D. C.
766863. Body brace. Joel U. Adams, Cincinnati.
766867. Inhaler for anesthetics. George L. Bennett, Chicago.
767201. Artificial arm. Joseph V. Bennett, Huntsville, Mo.
767334. Optical testing instrument. Ernest Eimer, Muskegon, Mich.
767233. Druggists' label holder. Newton W. McCourt and G. W. McAllister, Bradford, Pa.
766969. Optometer. Harry C. Paul, Chicago.
766897. Massage machine. Charles Pfanschmidt, Chicago.
766970. Massage machine. Charles Pfanschmidt, Chicago.
766842. Antiseptic wall paper. Edward E. Pray, Plainfield, N. J.
767124. Hygienic amusement bath and swimming school. Claeborn P. Randolph, Los Angeles, Cal.
767015. Electric therapeutic machine. Harry A. Slaughter, Los Angeles, Cal.